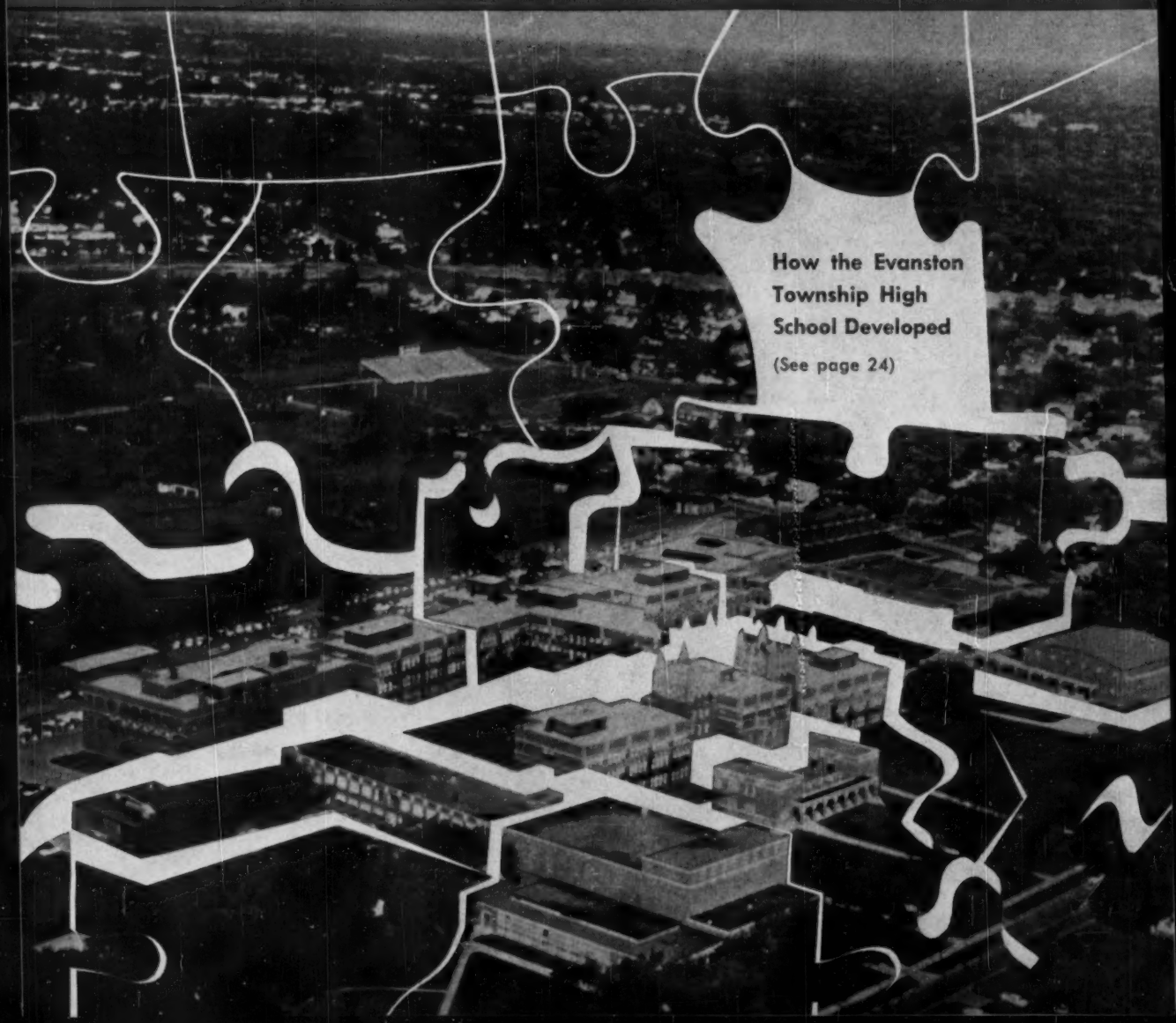
September, 1960

# the AMERICAN SCHOOL BOARD JOURNAL

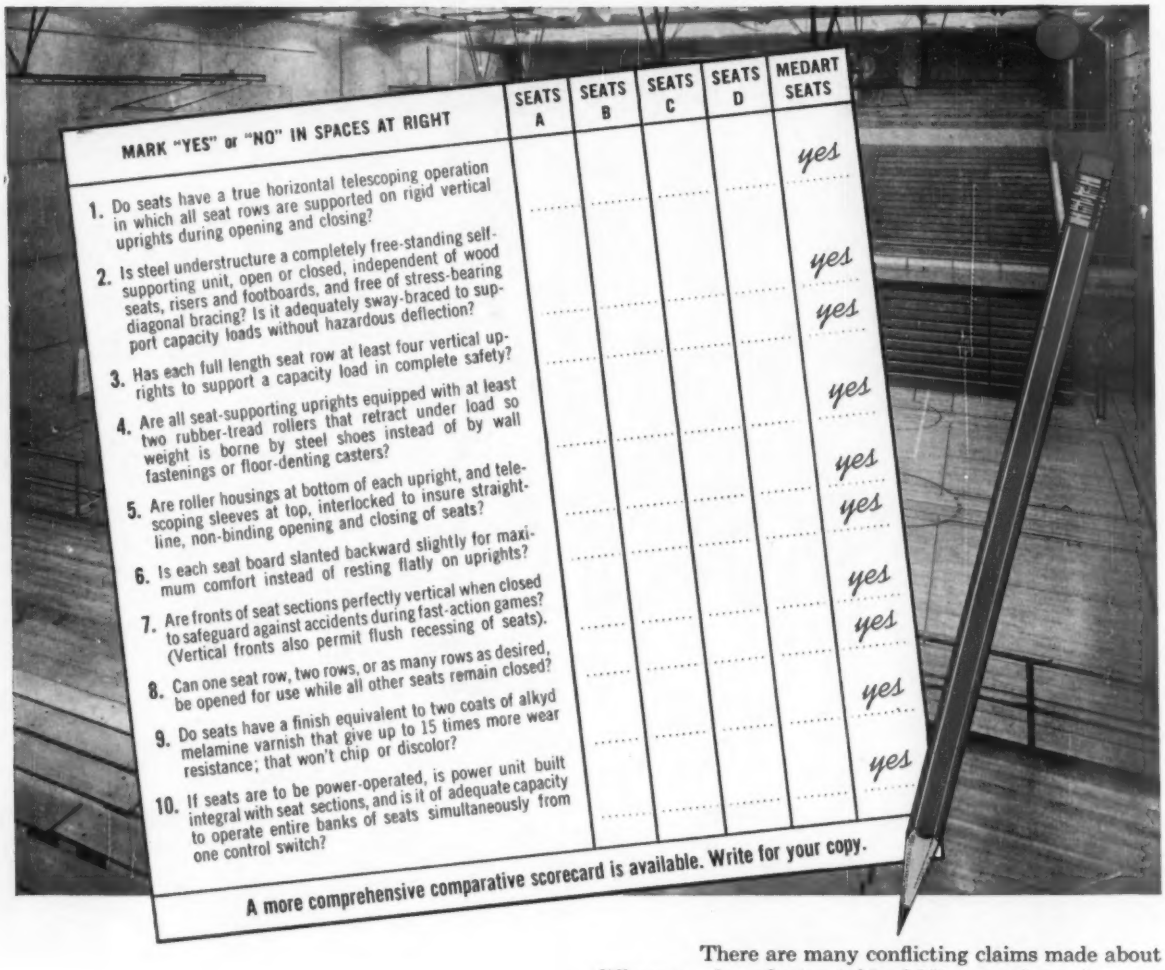
a periodical of school administration



**How the Evanston Township High School Developed**

(See page 24)

# What's the score on Gym Seats for that new school ?



| MARK "YES" or "NO" IN SPACES AT RIGHT | SEATS A | SEATS B | SEATS C | SEATS D | MEDART SEATS |
|---|---|---|---|---|---|
| 1. Do seats have a true horizontal telescoping operation in which all seat rows are supported on rigid vertical uprights during opening and closing? | | | | | yes |
| 2. Is steel understructure a completely free-standing self-supporting unit, open or closed, independent of wood seats, risers and footboards, and free of stress-bearing diagonal bracing? Is it adequately sway-braced to support capacity loads without hazardous deflection? | | | | | yes |
| 3. Has each full length seat row at least four vertical uprights to support a capacity load in complete safety? | | | | | yes |
| 4. Are all seat-supporting uprights equipped with at least two rubber-tread rollers that retract under load so weight is borne by steel shoes instead of by wall fastenings or floor-denting casters? | | | | | yes |
| 5. Are roller housings at bottom of each upright, and telescoping sleeves at top, interlocked to insure straight-line, non-binding opening and closing of seats? | | | | | yes |
| 6. Is each seat board slanted backward slightly for maximum comfort instead of resting flatly on uprights? | | | | | yes |
| 7. Are fronts of seat sections perfectly vertical when closed to safeguard against accidents during fast-action games? (Vertical fronts also permit flush recessing of seats). | | | | | yes |
| 8. Can one seat row, two rows, or as many rows as desired, be opened for use while all other seats remain closed? | | | | | yes |
| 9. Do seats have a finish equivalent to two coats of alkyd melamine varnish that give up to 15 times more wear resistance; that won't chip or discolor? | | | | | yes |
| 10. If seats are to be power-operated, is power unit built integral with seat sections, and is it of adequate capacity to operate entire banks of seats simultaneously from one control switch? | | | | | yes |

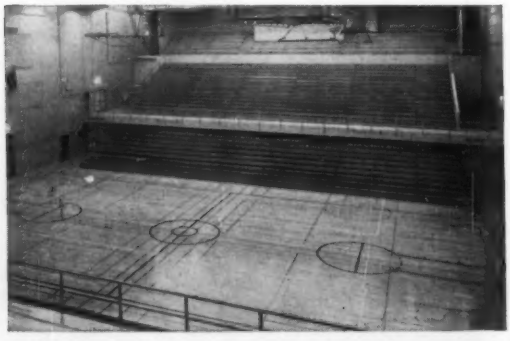
**A more comprehensive comparative scorecard is available. Write for your copy.**

There are many conflicting claims made about different makes of retractable, folding or telescoping gym seats. This "scorecard" will help you get the facts straight.

Additional factors that should be considered are the engineering experience of the manufacturer—approval among architects, schools and colleges—cost and frequency of maintenance as well as availability of service—durability (maximum service life).

*YOU* make the comparison before deciding, as thousands of other school officials and architects have done. *Ask for complete catalog.*

Long Beach City College Gymnasium
Long Beach, California



# MEDART
## TELESCOPIC GYM SEATS

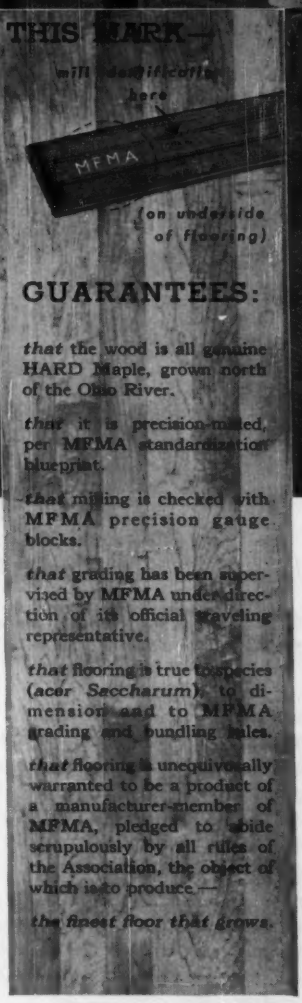
*SPECIFY the best, then INSIST on it!*

SEE OUR CATALOG IN SWEET'S

**FRED MEDART PRODUCTS INCORPORATED • 3578 DEKALB STREET • SAINT LOUIS 18, MISSOURI**

*(For more information from advertisers, use the postcard on page 61)*

Gymnasium, Riverside School, Riverside, Ill., floor of First Grade Northern Hard Maple.
Architects: Schmidt, Garden & Erikson, Chicago. Photograph courtesy Hedrich-Blessing, Chicago.


THIS MARK—
will identify
here
MFMA
(on underside
of flooring)
GUARANTEES:
that the wood is all genuine HARD Maple, grown north of the Ohio River.
that it is precision-milled, per MFMA standardization blueprint.
that milling is checked with MFMA precision gauge blocks.
that grading has been supervised by MFMA under direction of its official traveling representative.
that flooring is true to species (acer Saccharum), to dimension and to MFMA grading and bundling rules.
that flooring is unequivocally warranted to be a product of a manufacturer-member of MFMA, pledged to abide scrupulously by all rules of the Association, the object of which is to produce—
the finest floor that grows.

# —by all means for floors meant for feet!

Physical education and athletic authorities *all* approve floors of Northern Hard Maple. Few of them will accord even reluctant acceptance to any other kind of floor. That's a documented fact.* And the reasons voiced aren't whims, but expert judgment that demands the respect of school building committees.

Certainly, genuine MFMA-millmarked Northern Hard Maple, properly laid, costs a bit more than splintering woods or makeshift synthetics. But it's *enormously* better—more enduring, more resilient, brighter, tighter, warmer, more pleasant to walk on, stand on, run on, jump on, dance on and, if need be, to *fall* on! It's backed by many thousands of dollars spent for research to improve manufacturing, uniformity of design and dimension and *proper kiln drying*. MFMA educational work on waterproofing and trouble-free installation methods is available in free booklets, pamphlets and technical research papers. See Sweet's 13j-MA.

*Ask for Coaches' Survey Summary, available to all Architectural and School people.

**MAPLE FLOORING MANUFACTURERS ASSOCIATION**
588 Pure Oil Building • 35 E. Wacker Drive
CHICAGO 1, ILLINOIS

*where wordless "welcome" softly glows . . . you'll find* the finest floor that grows

# NORTHERN HARD MAPLE
BEECH and BIRCH


(For more information from advertisers, use the postcard on page 61)

*Goodyear XTRA GRIP gets school days started right–*

## *with the* 3'S's
# SAFETY–SCHEDULES–SAVINGS

There's no room on the school bus for haphazard buying. Start-stops are a regular diet—and winter driving conditions unpredictable. That's why it pays to take advantage of all the Goodyear Xtra Grip tire offers—for safety, for keeping schedules, and for all-around savings.

Xtra Grip is the all-season "safety monitor." Its unusually broad, flat tread puts more gripping area on the road to stop skids, stop wheel-spinning – and just plain stop.

It's the tire that answers the school bell, too! With up to 35% more traction than conventional tires, Xtra Grip offers more bite in the mud, more cling on snow-covered roads – prompt delivery of students before the bell sounds.

And Xtra Grip takes the honors for savings. New, toughened tread compounds deliver up to 40% more mileage than other tires tested. Backing up this tread superiority is Goodyear's unique 3-T Processed Cord (nylon or rayon) triple-tempered by Tension, Temperature and Time. You have the toughest tire bodies available – and a tire that's immune to most cord-failure problems.

Why not put your toughest-run buses on Xtra-Grip tires and see the difference in safety, schedules and savings. For less punishing conditions, other Goodyear tires are ready to meet your needs. See your Goodyear dealer today.

**Xtra Grip** premium all-season, all-around performer

**Super Road Lug** tops for off- and on-the-road use

**Traction Hi-Miler** quality leader in over-the-road field

**Hi-Miler Cross-Rib** long-haul, mileage champion

**Lots of good things come from**

# GOODYEAR

Hi-Miler, Road Lug—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

**MORE PEOPLE RIDE ON GOODYEAR TIRES THAN ON ANY OTHER KIND**



*(For more information from advertisers, use the postcard on page 61)*

# the AMERICAN SCHOOL BOARD JOURNAL

Editor
**William C. Bruce**

Publisher
**Frank Bruce**

Editorial Director
**Robert C. Bruce**

Associate Editor **Edward J. Pollock**
Assistant Editors **Andrew J. Clarke, Anna Tompkins**
Washington Editor **Elaine Exton**
Circulation Manager **M. J. Rutz**
Advertising Production Manager **Helen Smrz**
New Products Editor **Lois Lunz**

**Advertising Sales**

**MILWAUKEE 1, WISCONSIN**
Vincent C. Gelsheker, Gen. Sales and Adv. Mgr., 400 N. Broadway, BRoadway 1-9700

**CHICAGO 6, ILLINOIS**
James T. Callen, Adv. Sales Mgr., Thomas A. Barron or Francis X. Nugent, 20 N. Wacker Drive, STate 2-7530

**NEW YORK 7, NEW YORK**
Jack Faber or Charles J. Murray 233 Broadway, WOrth 4-4071

**MIAMI 32, FLORIDA**
J. Bernard Cashion, 904 Chamber of Commerce Bldg., FRanklin 1-9941

**LOS ANGELES 28, CALIFORNIA**
Robert C. Whaley, Whaley-Simpson Co., 6608 Selma Ave., HOllywood 3-7157

**SAN FRANCISCO 11, CALIFORNIA**
Gordon Simpson, Whaley-Simpson Co., 700 Montgomery Bldg., SUtter 1-4583



THE AMERICAN SCHOOL BOARD JOURNAL, Copyright, 1960, by The Bruce Publishing Company.—All rights reserved. Title registered as Trade Mark in the United States Patent Office.


Entered as Second-Class Mail Matter, March 17, 1891, at the Post Office at Milwaukee, Wis., under the Act of March 3, 1879. Published on the 25th of the month preceding the date of issue by The Bruce Publishing Co., 400 N. Broadway, Milwaukee 1, Wis.

SUBSCRIPTIONS. In the United States, Possessions, and Canada, $4.50 a year, payable in advance. Two-year subscriptions will be accepted at $7.00. In all foreign countries, $5.50, two years at $9.00. Single copies, 75 cents. When you have a change of address kindly report it to us at once. Send us your old as well as your new address and be sure the Postmaster is notified. Postal regulations restrict forwarded service on magazines to two issues only. Notice of discontinuance of subscription must reach the publication office in Milwaukee at least 15 days before expiration date.

ABC

September, 1960 Vol. 141, No. 3



**How Much to Teach?**, Tanner . . . . . 15

**Teaching Machines: Fad or Here to Stay?**, Exton . 18

**More Than a Feeding Program**, Lopez . . . . 22

**The Many Lives of Evanston Township High School**, Perkins . . . . . 24

**McKeesport Senior High School**, Horn . . . . 29

**Snow Country School**, Davis and Kingscott . . 32

**Specialists Can Plan a Better School Plant**, Hines and Rickards . . . . . 34

**Word From Washington: Federal Activities in Education**, Exton . . . . . 36

**Leadership and Administration**, Travers . . . . 38

**The Planetarium in Modern Education**, Williams . 40

Your JOURNAL for September, 4
Surveying the School Scene, 7
N.S.B.A. Report, 12
Editorials, 38
New Books, 46
New Products, 52
Reader's Service Section, 61

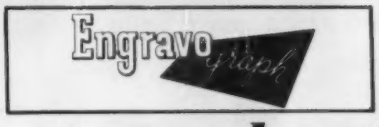
# The One Machine for 1001 School jobs ENGRAVOGRAPH

**SERVES THE SCHOOL** — ENGRAVOGRAPH makes the thousand and one signs, nameplates, and badges needed around the school — in minutes! It marks school property to prevent loss or theft, also engraves medals and trophies for teams, clubs, scholastic achievement.

**SERVES THE STUDENTS** — ENGRAVOGRAPH works on the tracer-guided principle; any student can produce beautiful precision work easily after a few hours training. There are over 20,000 machines now in use in industry, retail stores, institutions... a good job opportunity for students.

**PAYS FOR ITSELF** — As a maintenance item alone ENGRAVOGRAPH pays for itself in eliminating the signs you buy on the outside. And you can make everything as you need it, with no delays, no purchasing problems.

**SEND FOR CATALOGUE E-10**



**new hermes**

**ENGRAVING MACHINE CORP., 154 W. 14th ST., NEW YORK 11, N. Y.**

**IN CANADA: 359 St. James Street West, Montreal, P. Q.**


## *Your* JOURNAL *for September...*

According to national estimates, the rate of school construction continues to rise. Your September JOURNAL spotlights five articles which we hope will help you in your planning over the coming school year:

1. The name of Lawrence B. Perkins is no doubt familiar to you if you've ever come into any proximity to the architectural circle. In his "The Many Lives of Evanston Township High School" on pg. 24, he describes the growth of a structure reared in the roaring twenties on a vast plot whose purchase was first viewed with disfavor by some but which has ultimately proved a shrewd investment.

2. "A campus-type high school for cold-weather country" is the way superintendent Horn describes, on pg. 29, the $3 million-plus McKeesport "spread" just outside the Pittsburgh, Pa., city limits. You'll find added attraction in learning how glass walls can be used to great advantage.

3. You might think they'd need a sleigh instead of a bus to get there, but the Gaylord, Mich., students don't need snow goggles and parkas to stay comfortable — and healthy — in their cozy igloo, depicted on pg. 32.

4. An English teacher generally knows more about the teaching of English than anyone but a better English teacher. Likewise with math teachers, science teachers, *et al.* Why not let them help plan the facilities for their departments in the new school you're figuring to build? See pg. 34 for some logical details.

5. Don't let the stars get in your eyes but at the same time realize that a planetarium not only informs youngsters that Mars is more than a candy bar but also provides delightful educational facilities for the entire community. See pg. 40.

You'll find critical education issues highlighted in lead-off articles. Dr. Daniel Tanner elucidates several solid reasons that the self-contained classroom does more harm than good. Elaine Exton's presentation is a thorough and objective viewing of the present status of the "teaching machine," a subject whose discussion usually begins with that misnomer and closes in a vast conglomeration of uncertainties.

## *for October...*

You might see some interesting reactions in school-planning policy and practice to the story of a California school district's emergency measure which authorized the use of existing plans for its new and desperately-needed high school. Money and crucial time were saved, but originality was preserved in both proto-type and offspring.

*The Editor*

## OUR COVER...

Our September cover illustrates the Evanston Township High School "jigsaw puzzle." Far from making things difficult for succeeding members, however, the original plan has produced economy and expedience in the thirty-eight-year progression toward the ultimate attainment of the goal established by the 1921 board.

*(For more information from advertisers, use the postcard on page 61)*

# Don't let less than a penny a week* stand in their way

The individual Study-Center**, the newest and finest school desk in the world, gives students a lift for life. Yet a Study-Center costs less than a penny a week more than ordinary furniture.

Little wonder we say, "When you make the decision to select and purchase school furniture, you are making a decision that will have a profound effect on the youth of your community, both physically and intellectually."

So don't *you* let less than a penny a week stand in their way. Please turn the page.

*by actual records. **T.M. ASCo.

AMERICAN SEATING

The standard by which all public seating is measured

Auditorium seating, both portable and permanent, is what I need

I want to have tablet-arm chairs

**No. 16-001-TA** BODIFORM® Tablet-Arm Chair

**No. 254** Folding Chair with Plywood Seat

**No. 543** Classmate® Tablet-Arm Chair

Me? I insist on Study-Centers

**No. 2634** Individual Study-Center®

Tables and chairs for me

**No. 2644** Classmate Lifting-Lid Table with **No. 540-A** Classmate Chair

## You get all four, and more, from American Seating

AMERICAN SEATING

The standard by which all public seating is measured

GRAND RAPIDS 2, MICHIGAN

MANUFACTURERS OF SCHOOL, CHURCH, AUDITORIUM, STADIUM, THEATRE, HOSPITAL, AND TRANSPORTATION SEATING; FOLDING CHAIRS AND TABLES

®T.M. ASCo. ©1960 American Seating Co.

6545-

# SURVEYING THE SCHOOL SCENE

## THE MOLITOR CASE

The Illinois Supreme Court, in the Molitor case against Kaneland Community Unit School District of Illinois, has rendered its final decision following a petition for a rehearing of the case filed by the Kaneland district. The second opinion, which still abolished immunity as far as school districts are concerned, made a very important change in its prior decision by holding that, "except as to the plaintiff in the case," the rule of abolition of immunity applies only to cases arising out of future occurrences. The court stated that "retrospective application of the decision might result in greater hardship to school districts which had relied on prior decisions upholding the doctrine of tort immunity."

Only one child of the 16 pupils injured in the bus accident had appealed to the Illinois Supreme Court and the result of the decision was that only one child, namely, Thomas Molitor, who claimed damages of $56,000, was entitled to recovery. The remaining children, some with more serious claims, were limited in their recovery to the amount of the insurance coverage of $100,000.

Following the final decision of December, 1959, attorneys representing some of the children injured filed a petition before the Illinois court to broaden the opinion to include all of the injured children. This petition was denied by the court in January, 1960, but counsel for the children filed a petition for certiorari to the U. S. Supreme Court to review the Illinois court's decision on the grounds that the constitutional rights of the children had been infringed. This petition was denied by the U. S. Supreme Court in May, 1960. The counsel for the injured children has begun a second appeal to the Illinois court on behalf of the children and it is expected that the appeal will be up for hearing at the October term of the Second Appellate District in Ottawa.

The Supreme Court has yet to rule on the validity of the legislative efforts adopted in the summer of 1959 by the Illinois legislature, which sought to limit the liability of school districts for past and present torts to $10,000, unless insurance coverage is provided for a greater recovery.

## REPORT SHOWS STATE APPROPRIATIONS

State legislators appropriated nearly $4.5 billion for the nation's schools during the 1957–58 school year, according to the U. S. Office of Education.

The report shows that the state appropriations ranged from $534 million in California to $2 million in New Hampshire. Local taxpayers, it was noted, contributed 55 per cent of the money necessary to support public schools, compared with 69 per cent in 1937–38. Support from state funds increased from 29 per cent in 1937–38 to 41 per cent in 1957–58. Federal support increased from 1 per cent to 4 per cent in the same period.

## 'EXTRA CLASS' AVAILABLE TO STUDENTS

Students in the senior high schools of the District of Columbia will have a chance to begin their school day 45 minutes earlier next September in order to annex

(Concluded on page 10)

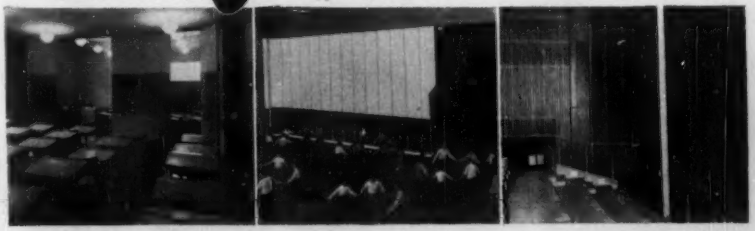
Photo above, Senior High School, Janesville, Wis. Law, Law, Potter & Nystrom, Architects.

**R-W FOLDING PARTITIONS**

**...dollar for dollar— feature for feature— the finest product of this type on the market**

Each R-W Folding Partition is the result of years of continuous research, engineering development and practical know-how. It is this experience that assures the quality, *rugged* strength, *dependable* operation and excellent sound-retarding qualities that is *inherent* in every R-W Folding Partition. Available in a type and size to meet your exact requirements . . . provides years of trouble-free, maintenance-free service. You can pay less . . . you can pay more . . . but you cannot buy more actual value for each dollar invested than with an R-W Folding Partition.

*for classrooms . . .* *gymnasiums . . .* *auditoriums . . .*



Grace McWayne School
Batavia, Illinois
Raymond A. Orput, Rockford, Architect

West Senior High School
Aurora, Illinois
Childs & Smith, Architects

University of Pittsburgh
Pittsburgh, Pennsylvania
Schmidt, Garden & Erickson, Architects

Write today for your free copy of Catalog No. 600.

R W

**Richards-Wilcox**
MANUFACTURING COMPANY
FOLDING PARTITION DIVISION
510 W. THIRD ST. • AURORA, ILL.
Branches in all Principal Cities




(For more information from advertisers, use the postcard on page 61)

**Mr. Stanley Buchacz, President of Justice School District No. 109, Justice, Illinois, says:**

# "Our teachers have found with a thermostat

Mr. Stanley Buchacz, in one of the classrooms in Justice Elementary School. A thermostat on the wall keeps the temperature just right for more take-home learning.



(For more information from advertisers, use the postcard on page 61)

# students concentrate better on the classroom wall"

**Honeywell wall thermostats keep classrooms in Justice Elementary School uniformly comfortable. This makes for more take-home learning and prevents wasteful overheating.**

"At Justice Elementary School, teachers never complain about classroom temperatures," says Mr. Buchacz. "That's because Honeywell thermostats call for just enough heat to keep each classroom comfortable. The temperature is always right for teaching and for learning."

Honeywell thermostats on the wall not only assure maximum learning, they also help keep fuel bills at a minimum. They keep temperatures in the classrooms at the precise level selected. There is never any wasteful overheating. And thermostats in classrooms not in use can be turned down to help reduce expenses.

In schools, the wall is always the best place for the thermostat. On the wall, it feels the temperature in the classroom the way the students do. It is also more convenient for the teacher to read and adjust to offset varying effects of weather, occupancy and student activities.

Your school will also benefit from Honeywell temperature controls. For complete information, call your nearby Honeywell office. Or write Honeywell, Dept. AJ-9-139, Minneapolis 8, Minnesota. In Canada, write Honeywell Controls, Limited, Toronto 17, Ontario.

This is the Honeywell Round, the world's most popular thermostat. It will enable your teachers to adjust temperatures to fit specific classroom activities.

**Honeywell**

*First in Control*

SINCE 1885

75th YEAR — PIONEERING THE FUTURE



(For more information from advertisers, use the postcard on page 61)

# this 18-row telescoping gym seat installation is operated MANUALLY

New Safway telescoping gym seat installation at Menomonee Falls High School, Menomonee Falls, Wis.; architects—Kloppenburg & Kloppenburg, Milwaukee. Seating set-up shown is duplicated on the opposite side of the gym (total capacity 2,370).

# SAFWAY

## TELESCOPING GYM SEATS

**quickly opened to any required number of rows or closed to clear the floor**

EASY OPERATION of Safway telescoping gym seats means *lower handling costs* every time you change your set-up. With Safway's straight-line tracking, manual operation is practical for most installations—even the big 18-row bleacher shown above.

Other Safway features are extra-large wheels, non-sticking nylon glides, fewer moving parts and less metal-to-metal friction.

**SPECTATOR COMFORT**—Ample foot and knee room; inclined seats; good view.

**COMPLETE SAFETY**—For spectators, gym users and maintenance personnel.

**FLOOR PROTECTION**—Wheels roll in separate tracks to prevent grooving.

**GOOD LOOKS**—Seats nest into a vertical cabinet. Rich Golden Oak finish.

**COMPLETE LINE**—Recessed, wall-attached and portable types.

**MOTORIZED OPERATION**—Available for larger installations if desired.

WRITE FOR BULLETIN 169U

SAFWAY

Sweet's

SAFWAY STEEL PRODUCTS, INC.
6228 W. STATE ST., MILWAUKEE 13, WIS.


## THE SCHOOL SCENE

(Concluded from page 7)

an addition to the school day of an optional period from 8 to 8:45 a.m. The extra class will be available on a voluntary basis to students in all four tracks of the ability-grouping system. Teachers of the 8 a.m. classes will be released 45 minutes earlier in the afternoon, so that they may continue to carry five periods a day. The extra period is expected to result in better utilization of the school staff and school plant, increase flexibility of scheduling, and insure enrichment of the curriculum.

### STUDY REVEALS FARM YOUTHS ATTEND COLLEGE

The Bureau of the Census has completed a study which reveals that one third of this year's high school seniors living on farms have definite plans to attend college in 1960. The study, conducted in October, 1959, sought information on the educational status and plans of U. S. farm and nonfarm youth.

A larger proportion of farm youth of high school and college age (16–24) than of a comparable urban group had failed to finish high school, and comparatively fewer farm youth had ever attended college.

### STUDY ON HIGH SCHOOL DRIVERS

Parents who do not wisely regulate their teen-ager's use of the car are endangering his high school grades, his future, and maybe his life.

This was the main finding of a comprehensive study conducted by the Allstate Insurance Companies in co-operation with 30 selected high schools throughout the United States and Canada, to determine the automobile's influence on teen-age behavior.

"The study leaves no doubt that it isn't the car but the control of its use that's important," according to Judson B. Branch, Allstate president. "Parents simply must realize the urgency of exercising more authority over their teenagers in the matter of how and when they drive."

Confirming the car-grades situation, the study points out that amount of car usage has a direct relationship to academic standing. Driving a car does not in itself have an adverse effect on grades, but when the use of the car is permitted to infringe on school work, serious problems develop.

### BLS REPORT AVAILABLE

Now available, U. S. Commissioner of Labor Statistics Dr. Ewan Clague reports, is the Department of Labor's Bureau of Statistics Report No. 159, "Work Injuries and Work-Injury Rates in School Lunchrooms, 1958."

Lunchroom workers, according to the report, are injured much more frequently but less severely than other public school employees.

### AASA CONVENTIONS

The American Association of School Administrators has announced its 1961 conventions: San Francisco, February 25–28; St. Louis, March 11–14; and Philadelphia, March 25–28. In San Francisco the general sessions and the exhibits will be held in the Civic Auditorium—Brooks Hall; in St. Louis at the Kiel Auditorium; and in Philadelphia at Convention Hall. The association recommends that school authorities who intend to participate in the conventions make their hotel reservations as promptly as possible.



(For more information from advertisers, use the postcard on page 61)

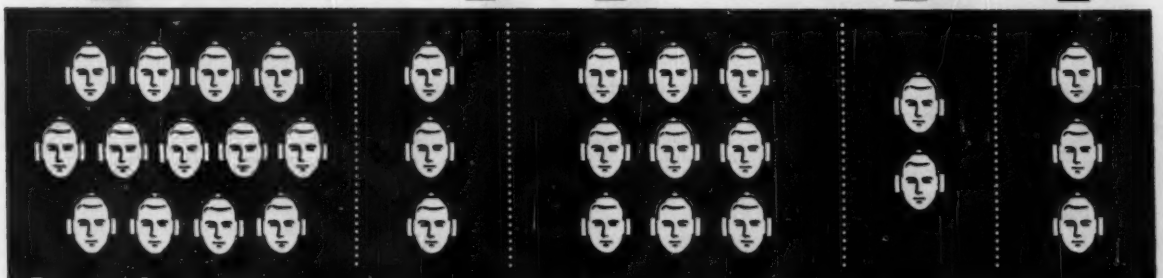
**"Nous étudions le français intermédiaire."**
"We're working on intermediate French."

**"Nous sommes en train d'étudier le français élémentaire."**
"We are studying elementary French."

**"Nous avons manqué la classe hier et nous ratrappons les leçons que nous avons manquées."**
"We were absent yesterday and are making up the lessons we missed."

**"Ce système-ci nous permet d'apprendre d'autant plus rapidement, nous suivons des cours de français plus avancés."**
"This system enables us to learn so much faster, we are taking more advanced French lessons."

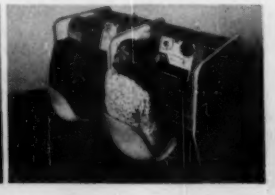
**"Hacemos tareas en español durante nuestro período de estudios."**
"We're working on Spanish assignments during our study period."



**One classroom...one console...five different activities!**

# EDWARDS LANGUAGE LABORATORY

In this typical classroom situation, one 30-position, 2-channel Edwards Language Laboratory serves five simultaneous activities (4-channel models available when required). 13 beginners work on a master lesson using Lesson Channel 1. Nine intermediate students work on a second lesson using Channel 2. Three more advanced students work with tapes saved from an advanced class, recording their responses while erasing old practice material recorded by previous students. Three absentees make up work on tapes saved from a previous lesson. Two students use a free period for some independent lab work. The language laboratory is utilized to the fullest extent. Any number of separate lesson activities or subjects may be handled. The instructor has complete control over all 30 booths and can monitor or communicate with any student at any time. The instructor can utilize the Edwards Language Laboratory's extreme flexibility to include visual presentations, channeling sound for films, slides, TV, etc. through the lesson channel's auxiliary input. He can use the function selector's RECITE position to channel the recitation of one student (or a conversation between himself and one student) to the rest of the group. The instructor may pick up any student tape he desires to check, or to hold as a master tape for later use. **There are many language laboratories, but only Edwards offers such versatility and ease. Write today for detailed literature on this more effective teaching tool for creative language instruction.** EDUCATIONAL EQUIPMENT DIVISION: Edwards Co., Inc. Dept. A-6, Norwalk, Conn.; Edwards of Canada, Limited, Owen Sound, Ontario. Better Language Instruction, For More Students, The Most Effective Way. ©1960 EDWARDS COMPANY, INC.





*(For more information from advertisers, use the postcard on page 61)*

# N. S. B. A. REPORT

## AIRBORNE EXECUTIVE COMMITTEE GEARS 1960–61 NSBA PROGRAM

**MAXINE PINSON**
Editor, NSBA Publications

Winging into Chicago by plane from widely separate parts of the nation, the 1960–61 Executive Committee of the National School Boards Association Board of Directors met for a continuous, hardworking session July 16 and 17 at the Conrad Hilton Hotel.

President of the NSBA, Roy O. Frantz of Pueblo, Colorado, flew to the meeting from Joplin, Missouri, where he had addressed the Midwest Conference of State School Board Association Officers. Others attending the meeting were: T. C. Sargent of Swampscott, Massachusetts, NSBA first vice-president; Cyrus M. Higley of Norwich, New York, second vice-president; Mrs. Fred L. Paul of St. Paul, Minnesota, treasurer; George B. Morse of Tucson, Arizona, Pacific region director; J. V. Vittitow of Owensboro, Kentucky, Central region director; W. A. Shannon, NSBA executive director; Maxine Pinson, editor of NSBA publications and Boris Lorwin of Glick & Lorwin, Inc., public relations consultants to the NSBA.

Representing the entire board, the executive group debated, weighed, and acted upon an extensive list of items ranging from the year's budget to committee appointments, proposed projects, the plight of educational broadcasting frequencies, convention planning, and others.

### New Committees Approved

Included among the NSBA 1960–61 committee recommendations by President Frantz were appointments for two new committees that are expected to provide valuable counsel and assistance to the association. One committee is being formed to explore NSBA board procedures. The other is an important committee to serve in an advisory capacity on NSBA program and activities. The executive group approved the president's appointments and recommendations. Already, state association secretaries have been asked to suggest outstanding individuals who would strengthen the service of NSBA committees.

### Support for Education's Frequencies Pledged

Extreme concern for the electronic frequency needs of education was expressed by the entire committee in discussing a letter to the NSBA from Dr. Harold E. Hill, administrative vice-president of the National Association of Educational Broadcasters. According to Dr. Hill, pressures for spectrum allocation exerted on the Federal Communications Commission pose a real threat to the future of educational broadcasting.

The FCC is expected soon to step up its consideration of the space-allocation problem. The entire allocation system may be overhauled. The danger is that education frequencies may be caught in a squeeze with the result that no new allocations would be made to education. Even more alarming is the possibility that some frequencies now allocated to education could be lost.

The NAEB has been urged by the chairman of the FCC to provide the commission with a long-range plan for the frequency needs of education. The plan is to include proposals not only for broadcast frequencies but also for such *other educational uses as electronic telescopes, laboratory experimentation, and satellite and space research.* Furthermore, what is more important, the plan is to anticipate needs for years to come, and thus not be limited to the immediate future.

In order to obtain the information needed to formulate this plan, the NAEB must conduct a nationwide survey, enlisting the wholehearted participation of school administrators the country over. Questionnaires will have to be filled out accurately and returned promptly. The NAEB has requested the National School Boards Association, among other leading organizations, to endorse this project and co-operate to help bring it to a successful conclusion.

### Co-operation With NAEB Urged

Apathy in this undertaking could be fatal, according to Dr. Hill. He declares: "Either incomplete information or an indication of apathy could deal a death blow to the entire project, and we sincerely believe that this may well be *education's last chance* to participate fully in the advantages which will accrue from proper utilization of the electronic frequencies."

The NSBA Executive Committee was firmly united in vigorous support of the NAEB in this fight for education's place in the spectrum. An article stating the problem will appear in *School Boards*, the NSBA newsletter. The NSBA will explore with NAEB representatives other ways to further this project.

### Soviet-European Seminar Recommended

Another highlight of the Executive Committee meeting was the enthusiastic response to a proposal by Dr. Gerald H. Read that the NSBA sponsor a Soviet-European seminar of school board members, state and local university trustees, school administrators and college presidents. Dr. Read is secretary-treasurer of the Comparative Education Society at Kent State University, and a recognized authority on Soviet education.

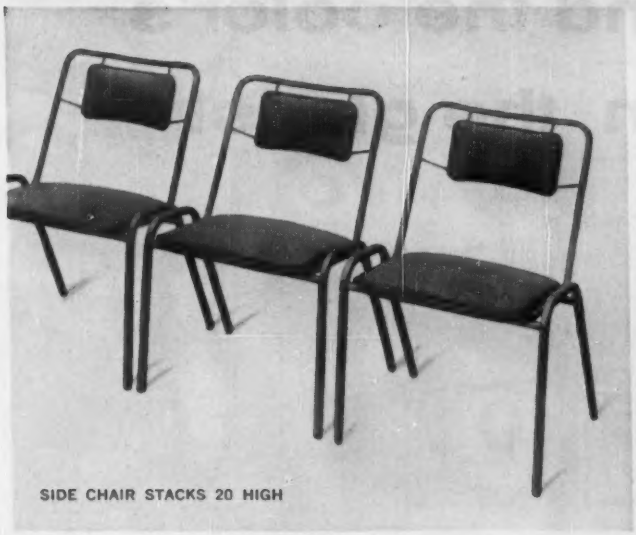
The committee felt that such a seminar would serve a two-way purpose. It would enable board members to study Soviet and European education systems and, at the same time, would provide leaders of Russia and other European countries opportunity to learn first-hand from U. S. school board members the values to be gained from citizen control of education. The seminar was recommended and passed to the full board for final action.

### Convention Planning Speeded

Advance plans for the 1961 NSBA Convention in Philadelphia May 4–6 were expedited by committee approval of a tentative schedule of events and a go-ahead on early selection of outstanding speakers who will challenge the interest of the nation in this convention. Attendance will be promoted throughout the year with the co-operation of state associations and convention exhibitors.

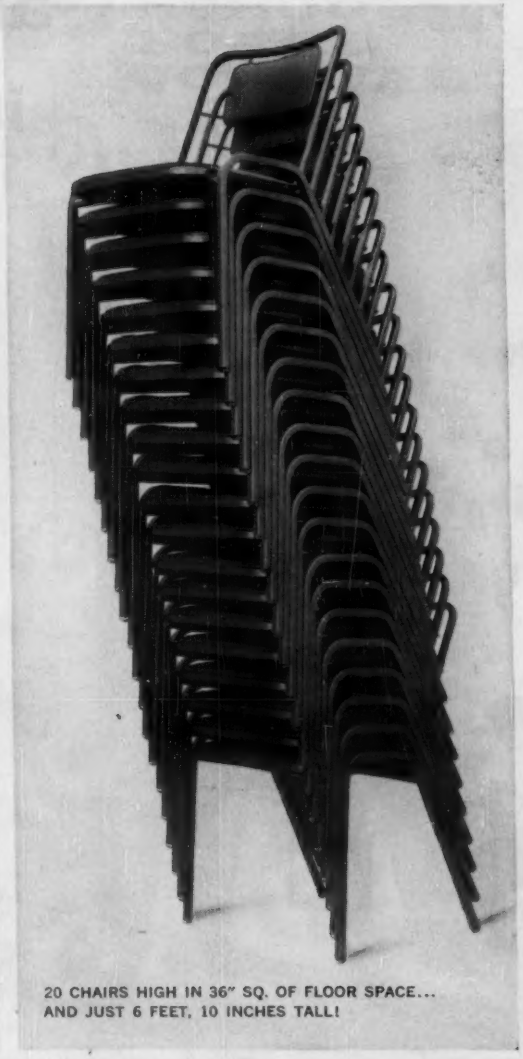
President Frantz closed the meeting with thanks to the Committee members for their diligence and wisdom in expediting the agenda. ■

# NEW-FROM SAMSONITE!



SIDE CHAIR STACKS 20 HIGH

ARM CHAIR STACKS 7 HIGH



20 CHAIRS HIGH IN 36" SQ. OF FLOOR SPACE... AND JUST 6 FEET, 10 INCHES TALL!

# THE WORLD'S MOST BEAUTIFUL, MOST COMFORTABLE STACKING CHAIRS!

**Samsonite answers your storage problem with ultra-modern Stacking Chairs.**

You can store up to 20 of these beautiful chairs in floor space for one. They're light-weight... easy to handle, practical to use as pull-up chairs. And they won't mar walls, thanks to unique leg construction. The vinyl upholstery on the generously padded seats and contour-curved backrests wipes clean with a damp cloth. All metal parts are Bonderized to resist rust, and finished in chip-resistant baked enamel in your choice of 5 colors (Grey Munster, Gala Red, Gala Blue, Tan Munster, Antique White). Built with electrically welded all-steel square tube frames, Samsonite Stacking Chairs are well worth their small extra cost for they'll give extra years of rugged, attractive, *comfortable* service! Invest now in Samsonite Stacking Chairs.

**Samsonite**
STACKING CHAIRS

Find It Fast In The Yellow Pages

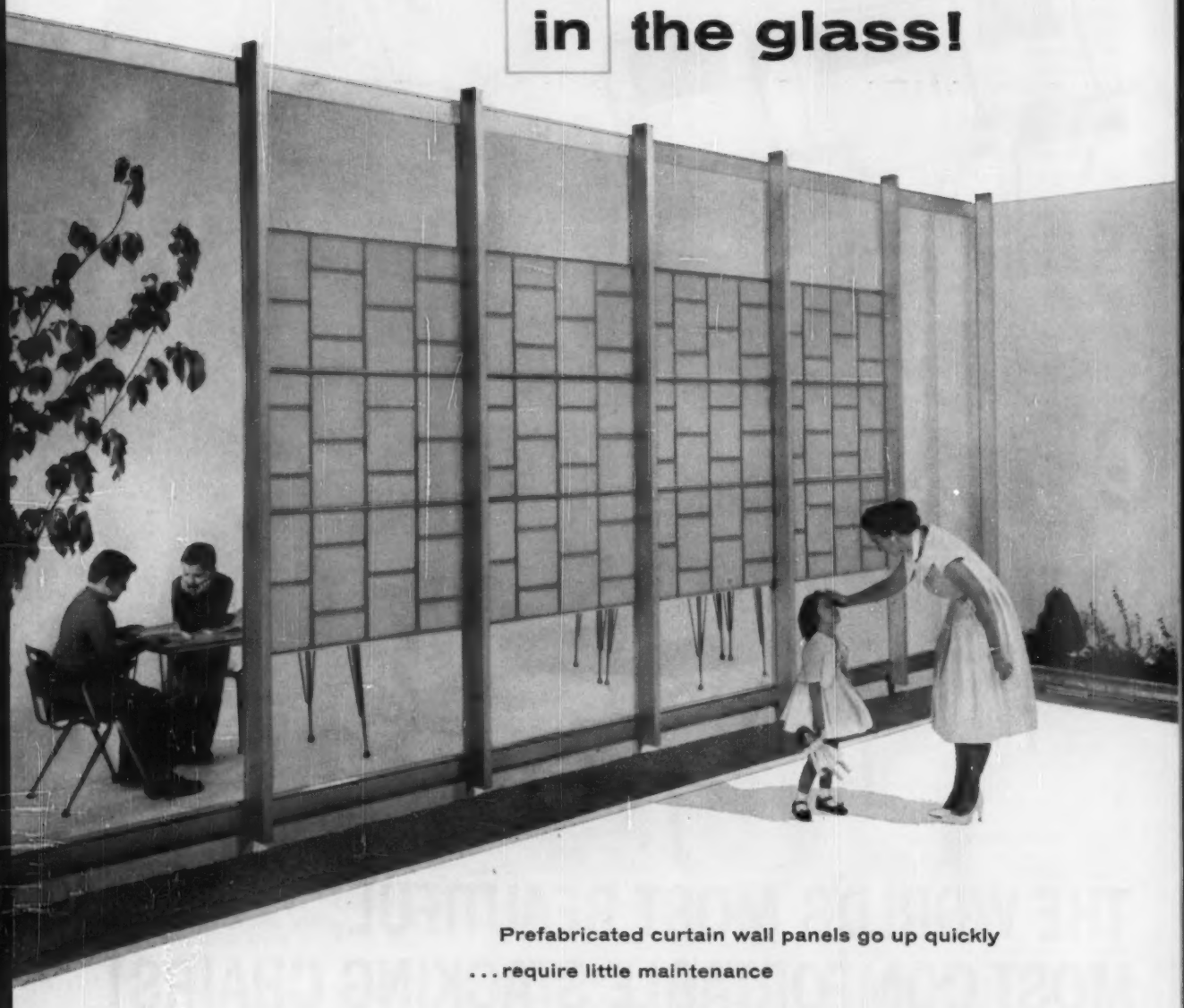
For church, school, club, other group seating information, see your Yellow Pages or write: Shwayder Bros., Institutional Seating Div., Dept. SB-90, Detroit 29, Mich. © 1960



(For more information from advertisers, use the postcard on page 61)

Thinlite Green Solar-selecting Panels reduce the sun's heat . . . yet let in the light,

# and the color's in the glass!



Prefabricated curtain wall panels go up quickly . . . require little maintenance

Now, there's a better way to reduce solar heat gain in classrooms, and improve thermal comfort. The answer is green solar-selecting Thinlite Curtain Wall panels. The cool green color is in the basic glass.

Like all Thinlite prismatic panels, new, green panels reject hot sun rays, distribute light evenly and softly, even to far corners.

And, they add new beauty to school interiors and exteriors.

New, green light-controlling units are but one advantage of Thinlite, the completely weatherproof, thoroughly insulated curtain wall.

For more information about this new light-controlling curtain wall system, write to Kimble Glass Company, subsidiary of Owens-Illinois, Toledo 1, Ohio.

THINLITE CURTAIN WALL
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

the AMERICAN SCHOOL BOARD JOURNAL
September, 1960

# How Much to Teach?

**DANIEL TANNER**
Assistant Professor of Education
San Francisco State College

Too much teacher work in too little time and widespread but superficial knowledge in important subjects. Conclusion: **The "self-contained" classroom,** modern version of the old one-room schoolhouse, **is an evil.**

An avalanche of criticism has fallen upon our schools. Yet what is perhaps one of the most serious of all weaknesses in American public education today has been virtually ignored by the critics. This particular shortcoming, like so many others, is a consequence of a society which expects great dividends from meager investments in its schools. Astonishing as it may seem, the result, in numerous instances, finds us still groping with a structural vestige of the one-room schoolhouse. For in elementary schools throughout our nation hundreds of thousands of youngsters must rely on a system of classroom organization in which a single teacher is responsible for the total formal educative experience at each grade level. In other words, these children receive their instruction in all subjects in the same classroom and from the same teacher. Administratively, this plan is termed the "self-contained" or "unitary" system of classroom organization.

### Trend Toward Self-Contained Teaching

In the "self-contained" classroom, an individual teacher must provide the instruction in arithmetic, reading, writing, spelling, science, history, geography, art, music, physical education, and so forth. While not all elementary schools are committed to the "self-contained" plan, the U. S. Office of Education reports that the leaders in elementary education are endorsing this system, and that the national trend is swinging away from departmentalization by subjects to unitary teaching by grade. Although the "self-contained" program of classroom organization usually operates through grade six, in certain school systems it extends through grades seven and eight where youngsters as old as twelve and thirteen are dependent upon an individual teacher for instruction in virtually every area of the curriculum.

Back in the days of the one-room school it was assumed that a single teacher was capable of instructing throughout the entire spectrum of studies. The "self-contained" classroom of today places a given grade grouping of youngsters under the guidance and direction of a single teacher for the entire day and over the full school semester.

Many professional educators contend that the "self-contained" classroom is the most desirable system of classroom organization at the elementary level. Such a classroom unit, they argue, provides for the fullest possible integration of learning experiences inasmuch as the youngsters are under the continuous guidance and supervision of a given teacher throughout the entire school day and school term. These educators also believe that this arrangement is more conducive to fostering desirable mental health factors in the teaching-

learning process than any other system of instructional organization.

Advocates of this plan point out that mental health factors are best taken into account under this system since the "self-contained" teacher is concerned with the education of the whole child, rather than merely being concerned with the child's specialized competencies in a given subject field.

### Unfair to Older Students

It seems reasonable to assume that the "self-contained" plan is well suited to children at the early elementary levels when they need to develop stability and security by identifying themselves continuously with an individual teacher. But what about the older children who must rely on a single adult for the sum total of their learning experiences? Is it fair to isolate these nine, ten, and eleven year-old youngsters, and in some cases even twelve and thirteen year-olds, from the depth and breadth of educational experience which derives from contact with teacher specialists in the various fields of knowledge?

This writer has actually observed fifth- and sixth-graders whose knowledge of science markedly surpassed that of the teacher to whom they were assigned in the "self-contained" classroom. Can we honestly expect a teacher to be highly competent to teach such youngsters in every one of the subject fields? It is very unlikely.

Those who favor the "self-contained" plan ignore the very real possibility of detrimental effects on the mental health of a given youngster who might be the victim of a personality clash with the teacher, but who, nevertheless, finds himself confined to that teacher's "self-contained" classroom all day long for the entire school semester or year. Also ignored is the possibility of serious psychological harm being wrought by a particularly poor teacher in a "self-contained" classroom situation.

### Proper Equipment Necessary

Originally, proponents of the "self-contained classroom" conceived of a plan whereby specialists could be brought in systematically and at the discretion of the regular "self-contained" teacher. In actuality, due to personnel cost factors, very few school districts have been willing or able to provide adequately for these specialists and consultants. The consequence has been frustration for the regular teacher. Since it is not economically feasible to provide each and every "self-contained" classroom with the equipment, supplies, materials, and resources necessary for conducting an adequate instructional program in all of the subject fields, the teacher and children are compelled to get along with what little they have. The end result is that these teachers and youngsters cannot secure the full dimensions of enriched experience which a more specialized curriculum and teaching staff might afford. Most of these schools are devoid of a central library and are lacking in the specialized facilities and resources needed for the support of adequate instructional programs in science, art, music, physical education, and other areas of the curriculum.

Inasmuch as the "self-contained" classroom teacher is responsible for her youngsters during every minute of the school day, she is seldom alloted more than a half-hour for lunch — during which time she may be assigned "yard duty" in order to supervise the lunchtime activities of her charges. So vital is the custodial function of the "self-contained" classroom teacher that, in most cases, she is required to work the entire day without relief. There is no time during the school day for working on curriculum problems, planning lessons, grading papers, compiling records, or even taking a five-minute coffee break.

### Cheap, Ergo, Popular

Although it was originally intended that the ideal "self-contained" classroom would have at its disposal all of the facilities and equipment necessary for instruction in each of the subject fields, such a plan of operation would be prohibitively expensive. But, in actual practice, the "self-contained" classroom effects a real economy in school operation because it is forced to function without these specialized resources. In designing and constructing an elementary school building under the "self-contained" plan, each classroom can be identical since there is no need to make special provisions for expensive science rooms, laboratories, libraries, music rooms, and other specialized instructional facilities. As a consequence, the "self-contained" classroom is actually the cheapest system of instructional organization. Undoubtedly, this is the prime reason for its widespread acceptance.

### Teachers Not Capable

In many schools, the "self-contained" teacher is not only expected to handle all subject areas in the curriculum, but she also is expected to conduct the physical education program for her pupils. Now, a woman teacher at the fifth- or sixth-grade level is, for the most part, incapable of dealing adequately with the physical education activities of ten and eleven year-old boys. Therefore, the school rarely provides for the facilities and equipment needed for such actively growing youngsters. The "self-contained" woman teacher, consequently, engages her class in simple, childlike games. The result is a program that is utterly devoid of its original intent and purposes.

Because so much is expected of the "self-contained" classroom teacher, one wonders how it is possible to develop teachers who possess adequate levels of subject matter competency in all fields of instruction. Obviously, even in cases where the prospective teacher has the interest and desire to achieve such a wide range of competencies, it would require many years beyond the usual four-year teacher certification curriculum to approach such a goal.

### "Master of None"

The economies realized through the "self-contained" plan are so great that, almost without exception, the colleges and universities must yield to the demands of the many school districts for candidates prepared as "self-contained" teachers. And this must be accomplished within the limitations of the usual four-year baccalaureate sequence. With many educational theorists lending support to such programs, the teacher preparation curriculum rarely penetrates beyond the survey stage. Consequently, the elementary teacher graduate, to paraphrase an expression, becomes a "jack of all subjects and a master of none." To make matters worse, the various subject area departments at these colleges and universities frequently refuse to accept any real responsibility for teacher preparation in the respective subject specialties.

Examine the catalogue of virtually any college or university responsible for teacher preparation at the elementary level and you will find the typical program utterly devoid of any real subject specialization. Let us select the program at the University of Illinois, since it is typical of the elementary teacher education curriculums at colleges and universities throughout the nation. At Illinois, for example, a student preparing to teach in the elementary school is required to take only one course in mathematics, "Arithmetic for Teachers." The total requirement in music is limited to two courses, both of which are entitled "Music for Elementary Teachers."

### Teacher Programs Not at Fault

It would be unfair to condemn the various teacher education programs and their staffs for this superficiality, when many communities, for the sake of educational economy, demand this of our colleges and universities. And since the "self-contained" teacher must be prepared to teach in all subject areas, there is no opportunity for developing adequate specialization. As a result, the bachelor's degree program rarely amounts to more than a smattering of emphasis in each of many fields of study. It is no wonder then that recent research conducted by the College of Education at the University of Illinois revealed that elementary school teachers are, by and large, incompetent in the teaching of mathematics. The investigations showed that these teachers have a strong fear and disdain for the teaching of this subject.

In four or five years of college studies, it is difficult enough to develop adequate depth and breadth in one or two areas of subject-specialization. Yet we expect the prospective elementary teacher to build such specialization and synthesis through a smattering of many subject fields. This is an impossible task.

Youngsters at the upper elementary school level are curious, imaginative and eager to learn. They delight in the wonders of exploration and discovery. They ask more questions than most adults are willing or even able to answer. But we lose many opportunities in our elementary schools to stimulate and nurture the eagerness and creativeness of the child. Under the "self-contained" scheme, we confine the youngster to the influence of only one adult who is expected to develop the child's capacities in all phases of the learning spectrum. Then we fail to comprehend why teachers fall into the expediency of overemphasizing the shallow skills of memorization-regurgitation, while neglecting the deeper and more significant understandings and appreciations.

Despite the claims by proponents of the "self-contained" plan, there is no evidence to support the contention that limiting a youngster's contacts to a single teacher will result in a greater cohesion of educational experience for that child. One could just as well argue, on the contrary, that limiting the learner's educative experience to the jurisdiction of a single teacher under the "self-contained" plan would more likely result in a dissociated, fragmented, and one-sided education.

"In today's world, it is the rare individual indeed who is capable of teaching throughout the entire range of the educational spectrum, working singlehandedly in all fields of study. . . ."

### Change Needed

In today's world, it is the rare individual indeed who is capable of teaching throughout the entire range of the educational spectrum, working singlehandedly in all fields of study with youngsters of nine, ten and eleven years of age. On the other hand, a competent and somewhat more highly specialized faculty at the upper elementary level, with unified and coordinated effort, may be able to do a far better job of lending continuity and coherence to the learner's educative experience. This does not mean that the curriculum for the fourth, fifth, and sixth grades should be dissected or fragmented into an array of atomistic and unrelated courses under independently specialized teachers. It does mean that we must develop other patterns of preparing elementary school teachers, and we must experiment with and evaluate new approaches to curriculum organization in our elementary schools.

Moreover, our communities need to provide the elementary schools with adequate libraries, laboratories, and other needed resources and facilities for high quality instruction. And, of course, teachers must be given time each day for curriculum analysis and development, lesson planning, parent and pupil consultation, preparation of instructional materials — and even a few minutes for a morning coffee break.

While it is not always wise to emulate the educational patterns of other societies, we do know that the Soviets have been attaining excellent results through coordinated and specialized instructional personnel and facilities at both the middle and upper elementary school levels.

The trouble with many of the elementary school programs throughout the United States today is that, under the "self-contained" classroom plan, each teacher has too much to teach. Unless this problem is solved soon, the educational outcomes of our elementary schools may lead us to serious disappointments and hazards. ■

— Western Design

# TEACHING MACHINES: Fad or Here to Stay?

ELAINE EXTON

A conscientious and comprehensive report on the robot that is still viewed as a flash-in-the-pan by many educators although it first appeared in 1924.

Whether teaching machines are a transient fad that will quickly pass from the educational scene or an indispensable tool that will become standard classroom equipment to facilitate learning in this electronic age can trigger lively debate these days. Whatever their place in educational history may eventually be, it seems certain that school board members and administrators will be asked increasingly for their opinions of this educational development during the year ahead and may even be urged to adopt this approach.

### What Is a Teaching Machine?

The term teaching machine can be misleading. Seeming to connote a single educational instrument, it applies to a variety of self-instruction devices that come in many shapes and sizes.

Models range from elaborate electronic mechanisms to multiple-choice checkboards and special workbooks embodying automatic teaching principles known as "programmed" texts. Some are built so large as to make placement in an automated study hall or electronic laboratory advisable. Others are small enough to fit into an average classroom desk or schoolboy's trouser pocket. Most of the teaching machines now available are for teaching conceptual (mental) skills. Some experimental work is being done with machines to teach psychomotor (manual) skills like adding machine operation and typewriting.

Prices for this new equipment vary. The models of the dozen or more manufacturers of teaching machines now sold commercially range in cost from less than $20 for one of simple style to almost $5,000 for a machine so complex that numbers pressed on a keyboard can select and project a desired learning sequence from among 10,000 stored images. A programmed textbook which can be used to teach high school statistics is now available for $15 a copy.

Or, a school can construct its own self-instruction devices in the school shop, as was done by an industrial arts class at Michigan State College, for example, at a cost as low as $2 per teaching machine for the materials, mostly plywood and masonite.

Simply stated, a teaching machine is a self-instruction device which requires active participation by the student in the learning situation. This is generally achieved, whether the medium is a complicated electromechanism or a "programmed" textbook, through presenting questions, problems, and/or factual information in a carefully ordered sequence in which the difficulty is gradually in-

creased so that the student by small logical steps is led to understand more and more of the subject and to obtain new concepts and insights.

### Basic Characteristics

Characteristically, automatic learning devices, whether mechanized teaching machines or modified workbooks, have these other important traits in common:

1. The student is actively motivated and kept busy responding all the time in contrast to his usual passive role as listener at a lecture or in a conventional classroom situation where his chance to become personally involved in the learning situation is likely to be limited.

As John A. Barlow, associate professor of psychology at Earlham College, puts it: "He interacts regularly with the teacher-programmer through the medium of 'the teaching machine'; such interaction seldom occurs between the teacher-author of the conventional text and his reader and is ordinarily not involved in any type of large-group class situation."

2. The pace at which the material is presented and repeated can be varied to suit the individual student. Each pupil can work at his own rate of speed: this allows for individual differences in learning ability.

3. The student finds out immediately from the device whether he has given a right or a wrong response and can correct his errors at once. This is not generally the case with most written classroom quizzes where the student seldom learns whether he has answered correctly until much later. In some types of machines "branching" is used after a wrong response has been given to provide additional experiences before the student moves on with the main lesson.

4. The student's performance on the machine can also provide the teacher with an individual record of the progress of each student. Studying this information (commonly called "feedback" in automated learning parlance) can provide useful clues for planning and programming further instruction. Quoting again from remarks of John Barlow of Earlham College: "It may be that the 'teaching machine' most effectively and efficiently teaches the *teacher* how to *teach* by providing him information as to his success with each student at every point in the program of instruction."

### Early Origins

Although as modern as automation, "programmed learning" is not a new method of teaching. The basic procedure, as John Blyth, a professor at Hamilton College, points out, "combines two ancient techniques in modified form: *the Socratic method of teaching by asking questions* and *the Cartesian method of analyzing a problem into its smallest parts and proceeding from the simple to the complex.*"

The present-day application of these principles to automatic teaching owes its genesis to the research of two educational psychologists — Sidney Pressey of Ohio State University, who invented the first "teaching machine," a multiple-choice punch board, in 1924; and B. F. Skinner of Harvard, whose studies some 20 years later with their emphasis on having the student "construct his response" rather than merely "recognize and check" the answer sparked the recent upsurge of interest in teaching machines.

Differences in the learning theories of these two men, and the schools of thought that have grown up around or branched off from them, are reflected in the kinds of programmed teaching devices now on the market.

A wealth of information on the concepts and techniques of self-teaching devices is available in two recent publications of the Department of Audio-Visual Instruction of the National Education Association (Washington 6, D. C.): (1) *Teaching Machines and Programmed Learning* ($7.50 a copy), a source book edited by A. A. Lumsdaine and Robert Glaser of the American Institute of Research, which contains most of the basic papers published in this field, and (2) *Teaching Machines: An Annotated Bibliography* ($1.50 a copy) prepared by Edward B. Fry. This special supplement to *Audio-Visual Communication Review* includes descriptive summaries of 25 self-instruction devices and a catalog of commercially developed teaching machines, in addition to bibliographic listings.

### Practical Applications

Typically, the teaching devices patterned on Pressey's principles present multiple-choice questions which evoke a "recognition" type response, use programmed materials with varied sequences, permit some errors in replies, test the student as well as teach him, and are primarily used to supplement classroom instruction and standard texts.

The models designed to carry out Skinner's methods, on the other hand, customarily feature "short-answer" questions requiring a "constructed" (usually a written, drawn, or spoken) response, offer programmed material structured in small, well-ordered steps made sufficiently easy so as to assure the maximum of correct responses from the student, and serve chiefly as learning instruments.

As described by Dr. Lumsdaine, professor of education at the University of California at Los Angeles and consultant to the American Institute for Research, one of the simpler Pressey teaching machines works like this:

"(There is) a window, at the left, in which a multiple-choice question appears. For example, in a course in elementary physics or electricity, the question might ask the student to identify the proper symbol to represent electric current or to solve a simple problem applying to Ohm's Law. His basis for doing so might be the prior study of his textbook, or one of Harvey White's physics TV/film lessons, or some other source — *including what he had learned from answering preceding questions in the series.*

"In any case, suppose he chooses the proper answer and presses the third push button corresponding to this answer. If he does so, the machine signifies the correctness of his answer by presenting the next question or problem. But if he is wrong, the question stays in the window, an error is tallied on a counter at the back of the device, and he must try again until he selects the right answer before the next question will be presented."

A machine-type teaching program may also be presented to the student in book form, although this kind of presentation cannot usually be made cheat-proof as can be the case when a machine is used.

An example of multiple-choice programming for a nonmechanical device is the "scrambled book" introduced by Norman A. Crowder, director of training for Western Design. In this type of book the pages are numbered consecutively, as in an ordinary book, but they are not read in the normal sequential order, i.e., one through ten.

To read such a book the student through his replies to multiple-choice statements is directed to the page in which the succeeding questions or learning materials are to be found. If he has selected a wrong answer he is so informed, and is given an explanation as to why it is incorrect. In this event he is directed back to the original statement page or other pages pre-established by the program writer. He continues in this fashion until he has covered all the material in the book.

In remarks before the 1960 Convention of NEA's Department of Audio-Visual Instruction, Helen Popp, research assistant at Harvard, pictured a simple self-instruction machine developed to teach elementary verbal skills according to Skinnerian principles as operating as follows:

"Teaching materials duplicated on standard eight and one-half by eleven inch sheets are fed past two windows in the machine by a unidirectional drive mechanism. Responses are written di-

rectly on the teaching materials through the window nearer the student; operation of a lever moves the written response to the farther window, under glass so that it cannot be tampered with, and exposes the correct answer in the open window.

"At this point the student compares his answer with the correct answer, scores himself 'right' or 'wrong,' and moves the lever to bring up the next frame to be responded to in the near window. The sole functions of this machine are to provide immediate knowledge of results, prevent cheating, and keep students from having access to any but the current teaching item."

Robert Glaser, professor of psychology at the University of Pittsburgh, and Lloyd Homme, president of Teaching Machines, Inc., of Albuquerque, New Mexico, are developing paper booklets along Skinnerian lines called "programmed textbooks." Each page is made up of four or five panels, but the sequence set forth for student reading and response is not the traditional one of proceeding from the top to the bottom of a page directly, but requires going from one panel to a related panel on a succeeding page.

For example, the student first reads the top panel on page one and then writes his answer on an appropriate place. He next turns to the top panel on page two to learn the correct answer, which he compares with his own. After scoring himself, he turns to the next page, and so on, until he reaches the end of a unit or chapter, where he is instructed to return to page one and to respond to the second panel on each page — a procedure which is repeated until the entire sequence of panels has been completed.

### Types of Automated Teaching Devices

Many variations exist in the way teaching devices have been designed to carry out Pressey's or Skinner's learning principles. There are stationary, portable, and collapsible models. Films, colored slides, records, tapes, discs, paper cards, mimeographed sheets, or printed pages may be used to present the programmed materials.

To select or write in the answers and to advance new questions or retire them from sight the student may push a button, press a single key or a series of keys, pull a lever, punch a hole, turn a handle, move a cardboard strip, wind a crank, or make a mark on a piece of paper.

Lights may flash, bells may ring, or buzzers whir to signal a correct response. Carrying still further the theory that immediate rewards are an important motivation for learning, one of the machines being used experimentally with mentally disturbed children drops a marble or a piece of candy into an open cup when the pupil selects the correct answer.

Some self-instruction machines are designed for a single specific purpose, for example, teaching "times-tables" (multiplication) in the elementary grades. Other devices are multi-purpose and are constructed so that adjustments can make it possible for the same instrument to present either multiple-choice, construction-response, or true-false material. A number of the models include self-scoring features. One of the more complex designs not only tests the student's learning capabilities but has a mechanism which records and times his progress on the equipment.

### Instructional Use

How a school intends to use its automated learning devices is an important factor in deciding what types to purchase. Some portable models and "programmed" textbooks, for example, can be used by the pupil in homework. With some stationary models it would be feasible to assign each member of a class to a period of training on the machine each school day or week.

Or, if a study hall is equipped with automatic teaching devices there could be one or more periods each day when all members of a particular class could work at the machines at the same time. Edward B. Fry, assistant professor of education at Loyola University, Los Angeles, has pointed out that in small high schools with limited curriculums setting up a laboratory with teaching machines could make possible providing a wider variety of subjects in a broad difficulty range since one teacher can supervise different pupils learning different subjects on the machine.

Officials of Encyclopaedia Britannica Films believe classes of 100 to 150 students, supervised by a competent teacher while they move through the process of self-instruction, to be entirely feasible and claim that programmed learning may represent a major breakthrough in the field of teacher shortages and rising instructional costs.

### Effect on Teachers

Will teaching machines replace the teacher? *"Certainly not!"* This is the reply given by exponents of this new technique who are quick to state that essential aspects of teaching still must be done by human beings. They consider that teaching machines have been misnamed and hold that the term "self-tutoring" or "self-instruction" device would provide a truer picture of the machines' main function.

In their view these instruments can be used to increase the effectiveness of a teacher by relieving him of such routine chores as oral drills, reviews, and tedious work correcting papers so that he will have more time to devote to lesson planning, individualized instruction, and creative aspects of teaching.

Confirming that "Many of the more routine aspects of coaching the student and testing his ability can be turned over to teaching machines," Dr. Lumsdaine says, "this will free the teacher to give more of her time to individual students, including the gifted and the retarded, and to projects and activities utilizing more fully the abilities of a skilled instructor."

"The really good teacher will be happy he can concentrate on teaching things the machine cannot," Mr. Homme told the 1960 convention of the Audio-Visual Instruction Department of NEA. Making a point popular with teaching machine advocates, John E. Ivey, Jr., president of the Learning Resources Institute, at this same meeting said: "No teacher should be asked to do anything that can be done better by a technological process."

### Programming Experiments

Leaders in the automated teaching field maintain that most of the academic subjects now being taught in elementary and secondary schools and at institutions of higher learning can be "programmed" for self-instruction devices, either in the form of teaching machines or special textbooks.

As this article goes to press a major factor holding back the use of automated teaching devices in the schools is the dearth of programs of instruction designed for them. Proponents of this new technique predict, however, that within the next few years programmed teaching materials for a number of subjects will be available at various education levels.

This view is bolstered by the growing number of "programming" experiments being carried out by universities, commercial companies, and the Federal Government. Many of these research projects are being financed by federal funds or grants from foundations. The Armed Services, for example, are currently investigating the use of mechanized teaching devices for various forms of training ranging from foreign languages to electronics repair.

Some colleges are conducting ex-

periments in programming school subjects for self-instruction for regular pupils, among them Harvard, Hollins, and the University of Pittsburgh. Still others, for instance, Johns Hopkins, Indiana University, and the University of Illinois, are developing programmed courses for teaching retarded or mentally disturbed children. Some of this work is being financed by National Defense Education Act funds (Title VII) administered through the Educational Media Branch of the U. S. Office of Education.

An increasing number of local school systems are experimenting with devising or using these new type programs in their instruction.

A few examples of programming projects that may have significance for schools are reported below:

Under the New Educational Media Program authorized by Title VII of the National Defense Education Act several grants have been made to colleges and non-profit institutions for developing curriculum materials for teaching devices and measuring the differences in learning accomplished by automated teaching and by conventional instructional methods.

For example, the U. S. Office of Education has awarded a $154,854 contract to the Edward R. Johnstone Training and Research Center at Bordentown, New Jersey, to explore the best means of preparing school materials for student self-instruction and integrating them into a curriculum for educable mentally retarded youth. The classroom achievement of 12-to-18-year-old students with I.Q.'s of 50 to 75 who have been taught by this program will be evaluated with the achievements of a comparable group of students instructed in the usual way.

Aided by a grant from the Fund for the Advancement of Education the Collegiate School in New York City (241 West 77th Street) has launched a program to develop and test automated teaching materials for elementary and secondary grades. Two other private schools — the Dalton School and the Nightingale-Bamford School — are cooperating by providing faculty for carrying on the research as well as students to use in testing and evaluation.

Activities already under way include a "preverbal" program in number concepts and symbolism for the pre-primary and primary grades, spelling for the 6th and 7th grades, remedial spelling for high school students, and a high school mathematics program, *Sets, Relations, and Functions* (experimental copies available at $5 each). Plans call for extending this work to other subject-matter areas, for instance, science for grades 3 to 8, French and Russian, high school biology, chemistry, and physics.

Encyclopaedia Britannica Films is sponsoring a project to prepare programmed teaching materials for schools under the direction of John R. Everett, president of Hollins College.

School subjects to be adapted for self-instruction devices include elementary and intermediate algebra; plane, solid and analytical geometry, and trigonometry. A total of two academic years of instruction in each of four languages — French, Spanish, German, and English — is also being produced as part of the project.

Considerable preliminary work and testing in the language and mathematics courses has already been done. For instance, during the 1959–60 school year, a class of 34 eighth-grade pupils in a Roanoke, Virginia, school were given beginning algebra, ordinarily offered in the ninth grade, under teaching machine conditions. This experiment, initiated with the aid of a grant from the Carnegie Corporation, found the class finishing the year-long course in half the usual time and with a good grasp of the material covered.

Present plans call for continuing production and actual classroom testing through the 1960–61 school year, with the entire block of programmed subjects becoming available to the nation's schools for actual use in the 1961–62 academic year.

**The sign labels the first teaching machine, a multiple-choice punch board invented by Professor Sidney Pressey of Ohio State University in 1924.**

Although at this stage most of the school self-instruction courses are being produced at universities, programmed learning advocates foresee that publishing of traditional instructional materials will be expanded to include the newer automated teaching devices and the materials to go with them.

At least one manufacturer of mechanized teaching equipment already employs writers to adapt a customer's basic training materials for use on their machines. To program an hour of self-instruction takes about 50 hours of preparation according to their estimates. The charge for this service is $10 an hour. A client may reduce the number of chargeable hours by having the company train members of his staff in their programming technique.

### Problems Ahead

Despite these signs of progress, the automated teaching field is still in its infancy and as yet there have been relatively few large-scale tryouts to test the contributions courses might make using self-instruction in a school system. School officials will therefore want to proceed with caution before investing in programmed learing instructional materials and machines.

In this connection J. James McPherson, who heads the Dissemination and Services Section of the U. S. Office of Education's Educational Media Branch, suggests that as a first step school officials assign members of the school staff to study the various types of automated teaching devices and programs available for use in their own academic fields. He further favors providing time off for this task if necessary.

Mr. McPherson advises school systems to undertake prior testing of all automated teaching aids before expensive installations are made. And if the school board decides to move ahead in using these instructional devices, he recommends that work-

shops be held to train the teachers in the effective use of automated teaching equipment and techniques.

One of the most troublesome questions affecting the use of teaching machines is who will control the programming.

If individual school systems and teachers are allowed to tailor use of these machines to individual needs, comments James D. Finn, current president of the Department of Audio-Visual Instruction of NEA and a professor of education at the University of Southern California, the result could be better teaching. But if some agency outside the educational profession takes over the programming and makes it the same for everyone, he warns, individual initiative and needs can become lost.

He perceives a further danger in the fact that it is now possible to combine mass instructional technology (i.e., television and mass films like the Harvey White physics series) with a growing technology for individual instruction (i.e., teaching machines and language laboratories) into an automated system of education which could standardize the textbooks, curriculum experiences, and possibly testing into a single nation-wide program.

Providing illustrations of this possibility in a provocative article on "Technology and the Instructional Process" in the *Audio-Visual Communication Review* (Winter 1960), Mr. Finn points out that most of the devices of the new educational technology — television, teaching machines, mass films, language laboratories — require a machine as a basic instrument for instruction and a contrived instructional program.

Recognizing that "the heartland (of a technological instructional system) is programming (and that) he who controls the programming heartland controls the educational system," he asks: "Will it be a Foundation, a committee of scientists, textbook publishers and film producers, the NEA, the school superintendent, the board of education, the students, or the general public (who will control)?"

In the opinion of most professional educators and citizens interested in quality schools the control should remain with the groups which have been traditionally responsible for making decisions about the purposes of education in our American democracy, namely, the education profession and the citizens in local communities. In their view the school staff should continue to recommend appropriate learning experiences, methods, and materials for every subject field and grade level. ■

**Canandaigua students get:**

motivation for liking | good foods

sure grasp of the value of | and

with

# More Than a Feeding Program

**PAUL LOPEZ**
Health Education Teacher
Fairport, N. Y., Central School

Can a school lunch program be nutritious, appetizing, educational, and economically self-supporting? If the answer is "yes," you can consider the program a success.

Success in this line in the Canandaigua, New York, schools is founded on the following principles:

1. To provide primarily a nutritionally balanced meal.

2. To give the child a practical understanding of foods and nutrition by (*a*) developing in him likings for nutritious foods; (*b*) teaching him the essential value of an adequate diet; and (*c*) providing a guide to selection of foods to meet the daily requirements.

3. To motivate the child toward self-direction for meeting his own needs.

A successful lunch program requires the integral work of school administration, teachers, food managers, cafeteria staff, students, parents, and the community.

Interest in the lunch program and in nutrition generally is no accident at the Canandaigua schools. It is the result of effort in many quarters. The cafeteria manager, Miss Elisabeth Law, has made it her business to see that meals are appealing as well as nourishing. She has taken extra pains to arouse pupil interest in nutrition. Circulating among the boys and girls during their lunch period, she concentrates on breaking down food prejudices and dislikes. Praise of a child who has eaten all of his food goes a long way. Besides honoring a particular youngster, this commendation has a constructive effect on other children near him, who may, perhaps, have suspected that their friend disliked something on his plate.

### Menu Contest

To stimulate still greater interest, Miss Law has initiated a "menu planning contest." Different grade levels participated in planning the menu for one week. Miss Law visited each classroom that was to plan a menu for the following week. This gave her an opportunity to become better acquainted with the boys and girls and gave them the opportunity to know her better. She talked to them concerning the lunch program, and particularly about the menus of the past, why they contained what they did, and why some things were not served. This gave her an opportunity to "plug" the nutritional aspect of the program. The menu planned each week is judged during the next according to the following table: (1) Nutritional requirements, 50 points; (2) Color appeal, 10 points; (3) Texture, 10 points; (4) Flavor, 10 points; (5) Cost, 10 points; and (6) Practicability and Suitability (judged primarily by the amount of food left on plates), 5 points each.

As a reward, the winning grade is put in charge of certain holiday parties. For these parties, everyone is invited and there is no charge for ice cream and accessories. Some winners take charge of the annual box picnic lunch in early June. Lunches are packed for each child in boxes neatly decorated by art and special classes. Inside his box each child will find tunafish salad, potato chips, sandwiches, a brownie, milk and candy, and a ticket which entitles him

Above: an itemized lunch record of each pupil.
Right: typical cafeteria scene, with parent help.

to a glass of punch and an ice cream cone when he returns his milk bottle and empty box to the cafeteria.

Miss Law also conducts a personal tour of the kitchen and cafeteria for the primary grades. This tour includes washing area, serving areas, storage, and the kitchen itself. The classroom teacher follows up the tour by having the children plan and draw pictures of the menus that will be served the following week.

One class has a large chart on their bulletin board, on which are listed all of the food items served by the cafeteria. Every student also is listed, to record whether or not he has eaten each item. The same class has made a correlation between absenteeism and meal completion.

### Community, Students Both Help

But interest in the lunch program is centered not only around the school and its classrooms; the community and the Parent Teacher Association are given a chance to play a part in this integral operation. As the PTA was in the process of conducting a fund-raising campaign, Miss Law and Mr. Raymond Hughes, elementary principal, were quick to capitalize on the opportunity. It was suggested that two PTA mothers help in the cafeteria dining area to aid students with any problems that might arise and to keep the dining area clean and tidy. The cafeteria, in return for this service, would donate $1 for each hour that a member of the PTA helped in the dining room. This has presented a twofold beneficial situation; not only does it donate approximately $200 annually, but, what is more important, it has given the mothers a chance to observe the fine meals presented daily.

Students also are given a chance to help in the meal-time procedure. Four boys and girls are chosen for a two week period to gain work experience in the cafeteria. Their job consists of the general cleaning of the returning trays, which includes separating the silverware, cleaning the remaining scraps off the tray, and taking the empty milk container from the trays. According to Principal Hughes, "This undoubtedly has done more to promote a feeling of unity among our student body than any other experience. It has helped those participating to realize that certain responsibilities must be discharged individually to realize the best possible social group behavior."

The following criteria are used for selecting student helpers: (1) dependability, (2) willingness to make an honest attempt to do the work assigned to the entire class, (3) acceptable academic work in relationship to the child's ability, and (4) permission from home.

### Figures Prove Success

You can readily see why the educational aspects of this school lunch program are such a success. This, however, does not give the complete success picture. You may ask, by what standard is this program considered a success? Figures may help answer this question. Somewhere between 1800 and 2000 pupils are served daily in three Canandaigua schools. During the school year of 1958–59, 267,224 Class A lunches were served. There were 437,121 half pints of milk sold. This means an average of two half pints of milk were sold for every Class A lunch served. The total expense for the same school year was $132,334. This is a big business. Percentage-wise in student participation, it breaks down as follows: elementary and primary schools, 80 to 85 per cent, and high school, 60 to 65 per cent. This student participation percentage ranks as one of the highest in New York State.

When this lunch program was initiated in the fall of 1950, the price of the Class A lunch was 20 cents for primary and elementary students, 25 cents for high school students, and 35 cents for faculty. The prices have remained unchanged. This reflects the careful planning and management of Miss Law.

The class type "A" plate lunch pattern followed by the Canandaigua schools is the pattern set forth by the federal School Lunch Act of 1946. This requires the school to serve a lunch that would supply a 12-year-old boy one third of his daily nutritional requirements. This includes two ounces of protein or meat, fish, cheese or poultry, ½ pint of milk, ¾ cup of fruit and/or vegetable, a slice of enriched bread, and two teaspoons of butter. To participate in the National School Lunch Program, a school must agree to operate its lunch program on a nonprofit basis; serve nutritious lunches that meet standards established by the U. S. Department of Agriculture on the basis of tested nutritional research; and offer the lunch at a reduced price or free to those children determined by local school authorities to be unable to pay the full price of the lunch.

### Food Fresh at School

It would do well to explain a little about the careful management and planning that makes this program such a success. An emphasis is placed on using fresh or school frozen fruits and vegetables. Such fruits and vegetables as corn on the cob, cherries, peaches, tomatoes, squash, celery, strawberries, apples, and many others are purchased when each item is in abundance and the price is low. These commodities are then canned, frozen or put into cold storage until needed. When the school's storage facilities are completely filled, commercial storage plants are then used. All soups are homemade, and an extensive baking program is carried out. The food supply is also enhanced by government surplus items, which are given directly to the school. A well balanced and nutritionally sound lunch can be provided for each child by combining government surplus items and those purchased by the school. ■

# The Many Lives of Evanston Township High School

**LAWRENCE B. PERKINS**
Perkins & Will, Architects, Chicago, Ill.

For more than 30 years and through four expansions, Evanston Township, Ill., High School has led many lives in adapting itself to refinements in education. Conceived by foresighted, courageous school leaders to keep step with changing educational concepts, master planning laid the cornerstone for a progressive building program that has proven valid more than three decades later.

**Lawrence B. Perkins, the architect, is the son of Dwight H. Perkins, who designed the original Evanston layout.**

Remarkable as it may seem, the original plan contained all the ideas for the educational facilities incorporated in the completed building; it also worked out to include never dreamed of needs. Only modifications have changed the appearance of the schematic plan.

It is this type of planning that has given an Illinois community, which values learning and culture, a flexible school building capable of meeting the needs imposed by rising enrollments and varied program concepts.

### Teaching: Four Phases

In the original planning of a building to meet the needs of "today and tomorrow," school leaders along with the architect, Dwight H. Perkins, of Perkins, Fellows & Hamilton, carefully probed trends in the following four phases of the teaching profession:

1. Opportunity to provide subject matter so that students will have command of facts and some ability to think along particular subject lines.

2. Opportunity to encourage application of students' thinking, philosophy and subject matter to such skilled fields as science, art, shop work and the like.

**A board with tremendous foresight and a little fortitude bought a plot of unprecedented size in 1921, and the forty years since have witnessed an unprecedented success.**

3. Opportunity to assist students in becoming successful social beings through proper exploitation of group experience in the auditorium, cafeteria and school-sponsored activities.

4. Opportunity to improve the physical well-being of the students, primarily to build a high level of health and vigor and secondarily to develop skills in games that are an immediate or long-range source of pleasure.

Analysis of these factors led the Evanston school board in 1921 to purchase a site of unprecedented size, viewed by some local citizens at the time as a waste of money.

From the beginning the 55 acres was intended not only to provide ample space for continued building requirements, tennis courts and other playground activities, the main athletic field and practice fields, but for gardening and agricultural purposes. A few years after the initial purchase, nine more acres were acquired to expand the athletic field.

**Expansion Stages**

The four chronological stages of expansion are as follows:

1921 — *The building program takes root.* The original building, occupying a small portion of the tract of land, was erected to house academic classrooms for some 1800 students, administrative offices, a gym and detached boiler room.

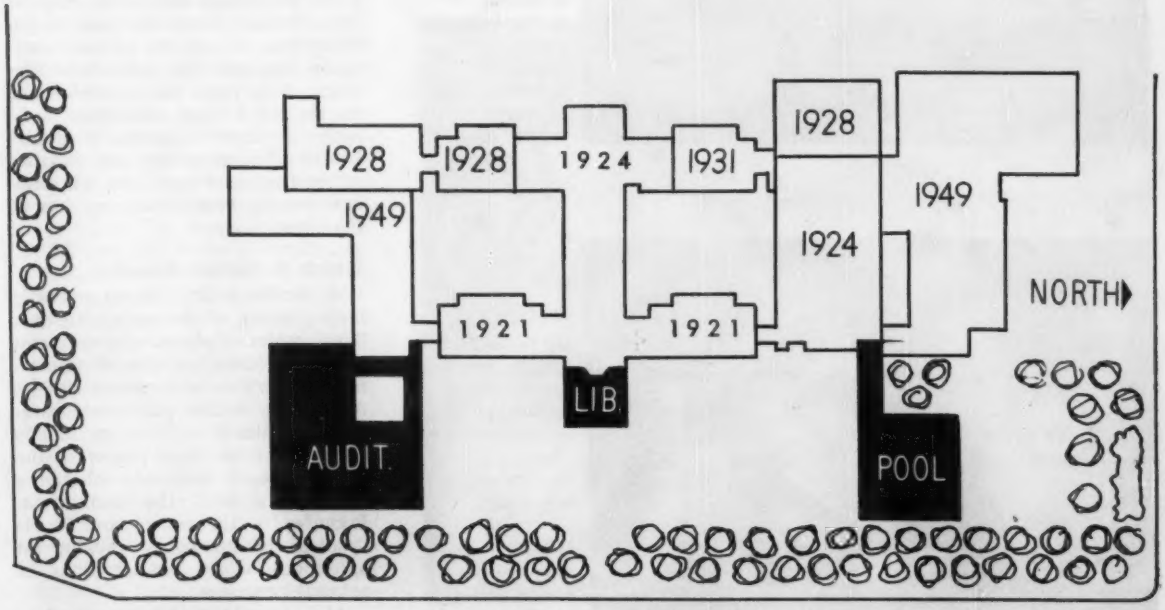
1928–31 — *Evanston's back door becomes important.* Academic facilities were increased, and a girl's gym, cafeteria, parking area and auto entrance were built.

1949 — *Post-war era dictates "new look."* A technical arts wing was added and athletic facilities were expanded.

1958 — *Evanston High gets a new front.* Two new wings — the auditorium and natatorium — were constructed in front of the original building, and the library was expanded ahead of the main entrance.

The most significant expansion, perhaps, with the greatest impact upon community life and the student body was the latest. In marking the attainment of a 33-year goal, it gave the townspeople and some 3500 students truly professional and complete recreational facilities.

Evanston High and the community are now so closely knit that it is difficult to determine where one begins and the other leaves off. The




This drawing shows the vine-like growth over the vast spread that ultimately produced the magnificent product (opposite page), vintage '58.

Like all the other buildings, the auditorium was designed by Perkins & Will of Chicago.

Auditorium: seating, American Seating Co.; lighting, Century Lighting, Inc.; carpeting, Mohawk Carpet Mills, Inc.; flooring, U. S. Gypsum; sound system, DuKane; ventilating, American Blower; temperature controls, Johnson Service. Natatorium: partitions, Vermont Marble Co.; lockers, Lyon Metal Products; tile, Cambridge Tile Co.; filtering system, Infilco, Inc.

two wings, erected in front of the original building at opposite sides of the campus, provide a court yard setting and form the heart of the school.

### Comedies Accommodated

Addition of the auditorium and natatorium has made the school the most popular entertainment spot in this large Chicago suburb. Whether a performance of *Tea House of the August Moon* or a water ballet, the high school is the setting for the show.

Auditorium lobby decor is similar to the main interior. Carpeting is a continuation of that inside.

Up to 1600 people can see a wide variety of productions on the ultra-flexible stage. It has an adjustable (10–70 ft.) proscenium and a two-platform forestage that is movable.

The auditorium, designed for use by both the community and the school, is equally adequate for large festival choruses, small intimate dramas, chamber music, a celebrity speaker or dancers.

Flexibility of entertainment is possible because of a proscenium, which can be adjusted from 70 feet down to 10 feet, and a movable, two-platform forestage. By means of a rolling butternut finished door, moving from side to side, the proscenium can be enlarged for a spectacular and again can be reduced for a more intimate production. For greater stage depth the two-platform forestage can be extended. When retracted, space is provided for an orchestra or extra seating. The stage itself is 36 feet in depth and 111 feet in width. On either side of the proscenium are stages for tableaux. Above these stages are wood grilles covered with bronze wire mesh concealing the organ pipes. Behind the stage is a scene shop and dressing, make-up, and rehearsal rooms.

Scenery lines are operated from a balcony which has an electric switchboard and control room with all electrically operated lighting devices. It contains a projection booth, with space for two projectors and two spotlights.

Moving out into the seating area, there are accommodations for a capacity audience of 1500–1600, if the forestage is not being used. Seating is of two types separated by a main cross aisle. Before the aisle the seats slope, while those behind are stadium style. Tucked under the latter is the lobby from which two ramped vomitories lead into the auditorium. The shape of the room was determined on the basis of a ticket sales study, indicating preferred locations. This hall is widest in the middle and narrows at the front and back, providing the best possible vision from any seat in the house.

### Superb Auditorium Acoustics

As for the ceiling, the treatment is both pleasing to the eye and useful. Two profiles of planes related to two sources of sound are carefully woven into an intricate basketweave design. Alternating ceiling planes are carefully calculated to pick up sounds either from the stage proper or the forestage and uniformly distribute them throughout the auditorium. Pocketed in the ceiling are 38 ellipsoidal reflector lights providing an appropriate effect for all kinds of cultural programs.

Also located in the auditorium wing is the school's music department, readily accessible to the stage

from a corridor. This department consists of individual choral and instrument rooms, music library, classrooms and a two-decker section of practice rooms.

Across the campus, offering a change of pace from the serene dignity of the auditorium, is the swimming pool.

The natatorium, which was put to use just a few months prior to the auditorium, is a useful facility for swimming meets and shows, community swimming classes, grade school activities, and the school's own instructional and intramural swimming program. It is connected to the academic building by means of a glass-enclosed corridor.

### Two Pools for Winning Tradition

Swimming is a natural for the Evanston community, located on the shores of Lake Michigan. Long before the pool became a reality, Evanston High School was producing championship teams, thanks to the local Y.M.C.A. facilities. Students and community now have year-round swimming privileges at the high school's bright, two-unit pool.

The main or exhibition pool measures 75 feet in length and 45 feet in width, slightly wider than the 42-foot standard. The extra width eliminates the competitive handicap of swimmers drawing outside lanes. Depth ranges from 3 feet, 6 inches to 12 feet, 8 inches. The pool's turquoise liner enhances and enriches the water's natural color. Six wide black stripes with white boarders mark lengthwise lanes and similar narrower white stripes go across the width forming an interesting plaid-like pattern.

A continuous yellow and tan ceramic tile deck connects the main pool with a smaller one. The latter is used for preliminary instruction and warm-up during meets — a delight to coaches. The practice pool is 30 by 60 feet and varies in depth from 3 feet to 4 feet 5 inches. Separating the two pools is an aluminum overhead roll-away door, which may be drawn when two independent activities occur simultaneously. This yellow, plastic-faced door remains open during swim meets, public reacreational swimming and instruction periods for pre-high school youngsters.

An innovation is the scorer's balcony complete with an electric time clock and scoreboard, overlooking the deep end. "U" shaped balcony seating, concentrated around the shallow end of the main pool, can accommodate about 1000 spectators.

Regardless of how excited the crowd may become, the acoustics were carefully planned to absorb noise. Materials in the entire ceiling and the face of the balcony railing reduce noisy reverberations. During swim shows, social swimming and water ballets, musical accompaniment originates from a turntable attached to the public-address system.

**The natatorium provides indoor swimming and houses meets and special presentations like water ballets.**

Classes are easily supervised because instructors' offices — one for boys and one for girls — are located on opposite sides of the main pool. These offices feature polarized glass walls, permitting supervision when the separating door is drawn and, also, eliminating the sheen on the water, allowing observance of above- and below-surface activity.

Visual supervision is also possible in locker rooms, as shower heads are mounted on partitions rising only halfway to the ceiling. Identically designed locker rooms for boys and girls are readily accessible to both pools.

### Sports Featured in '49 Phase

Taking a backward glance brings the third (or first post-World War II) expansion into focus. The nature of this phase bears similarity to those previously mentioned because they were all dictated by educational concepts rather than a need for more space to house more students, and both were designed by Perkins & Will, Chicago.

State legislation requiring more athletic activities, along with World War II, strongly influenced this aspect of expansion. The features of Evanston's 1949 "new look" were a technical arts wing and 65,135 square feet of athletic space consisting of a 146 foot by 245 foot field house, four 60 foot by 800 foot gyms, a wrestling room, equipment storage, locker and shower space, a large community room, and athletic staff offices.

Traditionally, Evanston's educational program has emphasized aca-

**A balcony view of the natatorium interior reveals the exhibition pool and the smaller pool in the background.**

Top left: corridor in the technical arts wing uniquely displays student talent.

Above: the shops have an instructor's mezzanine, which permits "elevated" guidance.

One large area for socials, etc., is created by opening the doors between the faculty and senior students' lounges.

demic training because more than 90 per cent of its students continue their education in college. In spite of this, school leaders felt a well-rounded background also should include instruction in industrial arts. Therefore complete shop facilities were added, not to provide training of a vocational nature, but rather to acquaint the students with technical arts as a part of culture itself. Instruction in this department gives both girls and boys a foundation upon which they might also build toward a journeyman's skill, if they so desire.

A distinctive characteristic of this wing is the corridor treatment. The focal point here is the look-through glass-enclosed display cases near the entrance to a number of the shops and studios, the rub rail that can be utilized for mounted art work and the expanse of wall display space. All hall lighting is designed to illuminate tackboard and wall rail display surfaces. Special lighting is provided for the recessed "look through" displays. The pleasant, inspiring atmosphere of the long exhibition-like hall releases students from classroom tensions.

### Shops Fully Equipped

All shop areas are set up with technical equipment. For example, the photographic section on the second floor is a four-room suite containing a completely outfitted studio-classroom, film loading and developing room, office, and printing and enlarging darkroom.

In the interest of saving space, the shops were designed with a mezzanine. This area, overlooking the shops, contains instructors' offices, small classrooms and storage space. Each pair of shops shares a lecture room on this level. The "flying bridge" device permits supervision of classes without the instructors' presence on the shop floor.

Pastel colors, used in this wing, relieve whites and grays. Several rooms have patterned draperies in keeping with a decor set in lounges, where window dressings pick up the same pattern of the wall paper.

The field house, designed for indoor track meets, provides seating along the east wall for a 500-plus audience. On the other hand, seating was not included in the four gymnasiums, designed solely for physical training classes.

While the 1957–58 expansion has made the front of the building the hub of the school, the second phase of growth — 1928 to 1931 — placed importance at the rear.

This addition introduced a girls' gym and cafeteria and increased academic facilities to handle the enrollment, which had mounted to 2400 students. Reflecting the impact of the automobile on our society, in 1931 a parking area and auto entrance was established behind the school building.

Although the physical plant was developed in a series of stages, each unit is well integrated with the other, because of the simplicity of the original design. It was the popular "educational Gothic" of the twenties. This essentially clean design with limited ornamentation made it easier to blend today's functional and economy-dictated construction with the old.

### One Structure in '21

Turning back the tide to 1921 — the birth date of Evanston Township High School's building — there was only one structure, heated by an isolated boiler plant located 800 feet away with switch track facilities. The original building housed science classrooms in the central wing, which connected the front section of the physical plant to the back. The administrative suite was in the front central part flanked by the two main entrances and opened on to two social halls. Above the administration suite was the library extending through two stories. Rounding out the facilities was the main gymnasium and accessories. A large temporary wood structure was built for

(Concluded on page 49)

**Of modified campus design, a secondary school with a large use of glass curtain walls for strong insulation and shadeless light control.**

# McKeesport Senior High School

**ARTHUR O. HORN**
Superintendent of Schools, McKeesport, Pa.

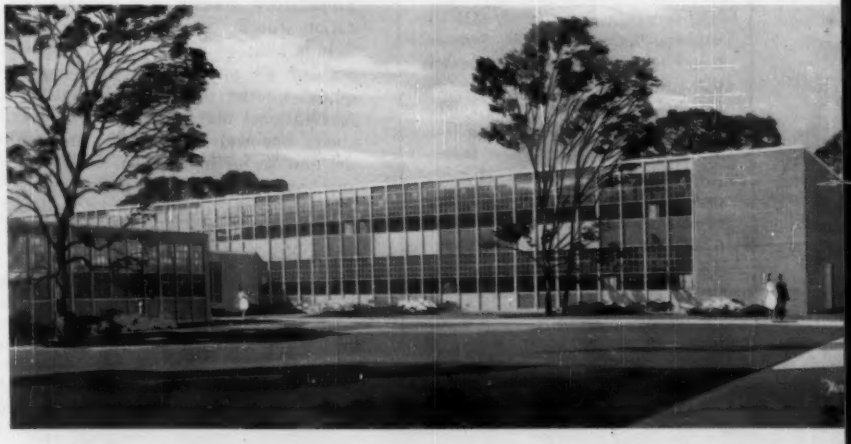
Construction has begun on a uniquely designed and efficiently planned campus-type high school for cold weather country in McKeesport, Pa., a suburb of Pittsburgh.

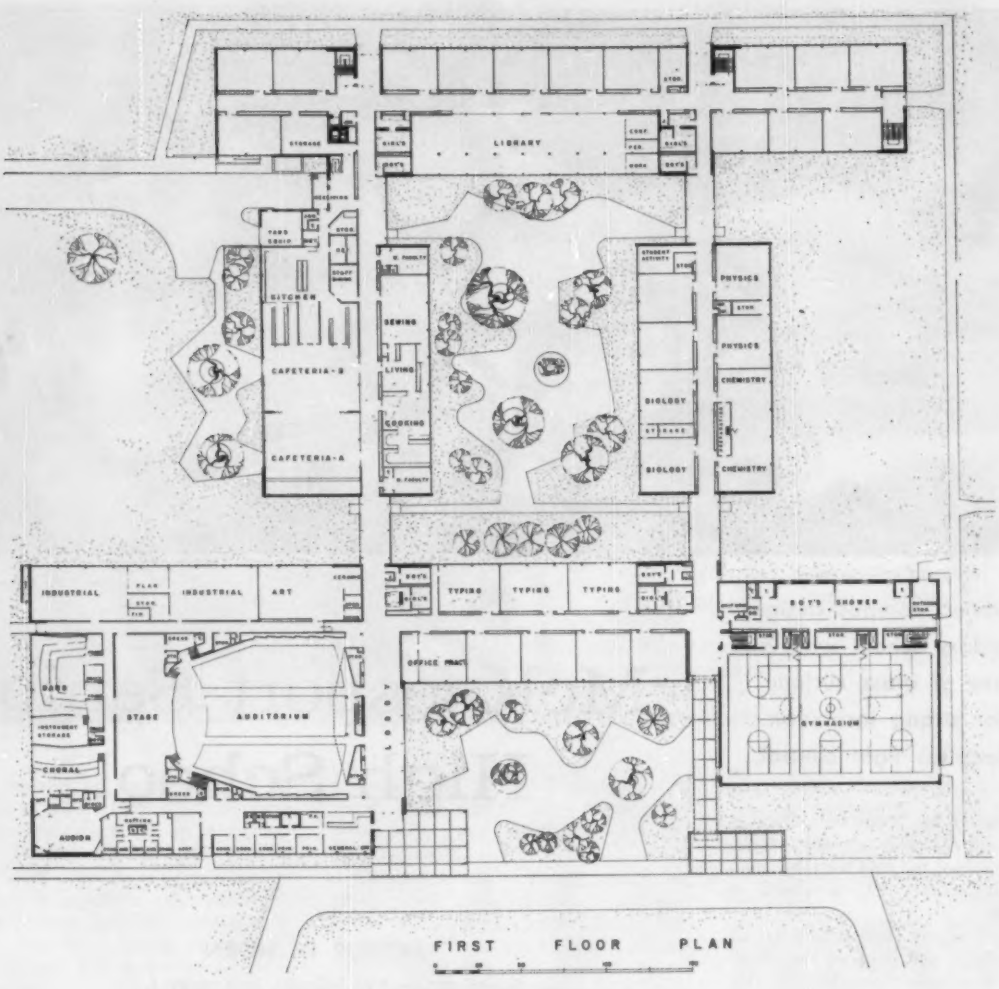
The McKeesport High School has all the advantages and none of the disadvantages of campus-type schools in this climate; the only extra cost involves four 40-foot connecting corridors. Complete walks around the building to all doors and through the landscaped quadrangle court ease the traffic flow and provide complete accessibility.

The $3,220,747 structure is to be completed in June of 1961 and boasts a number of unusual features, such as:

Post office type mailboxes for teachers; sliding glass windows in the office opening into main corridor; accordion-style bulletin boards; special dark room for photostat work; large illuminated trophy cases; separate parking lots for faculty (80 cars) and students (500 cars); mimeograph room separate from office; library, business, science, and homemaking departments all facing the court; major student toilets uniformly spaced on the four corners of the quadrangle; folding doors to seal off sections of the building for evening use; flush rubber mats at entrance to provide drainage; and a single service area with loading facilities and storage for cafeteria, instructional, and custodial supplies.

Architect was Celli-Flynn, McKeesport, Pa.






**Heating: boiler, National Radiator Corp.; unit ventilators, Nesbitt; controls, Johnson Service Co. Electrical: program clocks, Edwards Co., Inc.; fire alarm system, Edwards Co., Inc.; sound system, RCA; Sanitary: toilets, Eljer; flush valves, Sloan. General: chalkboards, Korox; lockers, Berger Mfg. Co.; auditorium seating, Hughes-Ogilvie Co. General: windows, Owens-Illinois; paint, Pittsburgh Paint Co.; folding partitions, Wayne Iron Works.**

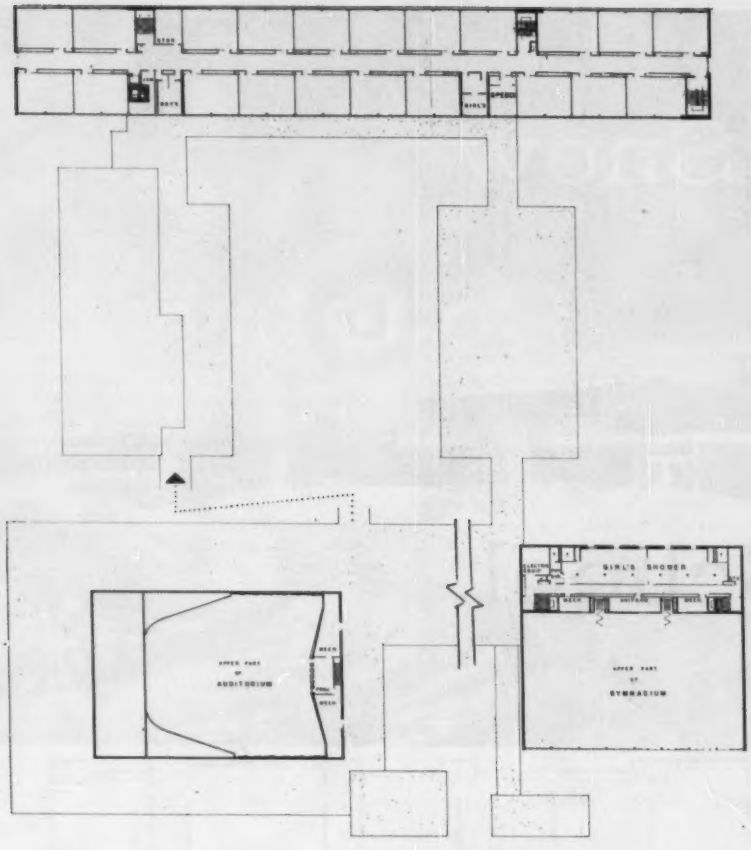
Designed by Mario Celli of Celli-Flynn, architects and engineers of McKeesport, Pa., the school was designed to meet the specific needs of college preparatory, general, and business education students.

It is built on a 35-acre site which is part of 49 acres of level ground acquired by the school district in 1939. A vocational industrial high school occupies one end of this site; and with the new senior high school on the balance of the plot, these units together with the nearby campus of the Pennsylvania State University Extension Center and a city park form the rapidly growing cultural and educational center of McKeesport.

### Interesting Construction Features

Among the more interesting construction features is the wide use of "Thinlite" curtain wall — the largest school use to date. Used in most wall areas of the school buildings, this system is made up of prefabricated panels bolted to aluminum structural members. The major portion of the panels are made up of two-inch-thick hollow glass tile which combines high insulation value with daylight control qualities that eliminate the necessity for shading devices. Factory-fabricated, the panels have interlocking aluminum perimeters with Neoprene gaskets; on-the-job installation of the system is both fast and inexpensive. Other panels used in the school installation include window ventilator units and colored porcelain enamel insulating panels. Panels are four feet wide and, generally, two feet high.

Other interesting construction details include the use of terrazzo floors in all corridors and lobbies with asphalt and vinyl tile used in other areas. Color-glazed structural face tile is used in




corridors, stairs, and the kitchen. All classrooms have acoustical plaster; acoustical tile is used in the corridors and plastic-faced acoustical units are used in the kitchen and other areas. An elevator is included for the handling of freight and transporting disabled students.

The classrooms, library, and offices all have fluorescent lighting, while incandescent lighting is used in other areas. An extra thick coating of anodizing for protection against fumes has been specified for the science area, as well as vinyl tile floor throughout that portion. The gym has maple flooring.

### Room Distribution and Description

With a rated capacity of 1534 students the space allocations have been made as follows:

Classrooms — 28 each 736 sq. ft., 7 each 828 sq. ft., and 6 each 850 sq. ft.
Science laboratories — 6 at 1000 sq. ft., business laboratories — 4 at 1000 sq. ft., artcraft — 1 at 2000 sq. ft., library — 1 at 4200 sq. ft., homemaking — 3 at 1000 sq. ft., industrial arts — 2 at 1100 sq. ft.
Gym (3 stations) — 1 at 10,000 sq. ft., band — 1 at 1500 sq. ft., choral — 1 at 900 sq. ft., audion — 1 at 1000 sq. ft., health — 1 at 850 sq. ft., cafeteria — 1 at 8000 sq. ft., faculty — 2 at 440 sq. ft., conference rooms — 2 at 330 sq. ft., and administration suite — 1 at 1950 sq. ft.

Planning and developing the new school was carried on over a considerable period of time. Ideas were borrowed from more than 50 new school buildings visited by school officials. The plans that finally developed from this process were for a high school of six buildings connected by a system of corridors — carefully designed to eliminate all traffic bottlenecks — as follows:

### Campus Layout

*Building A.* Auditorium and administration building containing offices, health suite, audion, band and choral rooms, industrial arts, and artcraft rooms. The auditorium with full loft stage will have 1222 upholstered seats and is designed for school and community use. The audion may be used for speech classes and audio-visual programs and accomodates two full classes.

*Building B.* Business education department has three typing rooms, a business machines room, and four classrooms adjacent to offices. All rooms are wired for electrical equipment and have master control switches. There is a glass-partitioned section in the machines room and a special supply room for the suite.

*Building C.* Classrooms and library. This building has 35 classrooms and a large library. The library has glass walls on the corridor and outside walls and overlooks the landscaped court. It seats 150 and has stacks for 17,000 volumes. There is a work room, periodical room, conference room and lounge area.

*Building D.* Dining room, kitchen, faculty rooms, and homemaking rooms overlooking the court. The cafeteria seats 500 and may be divided into two sections by a folding door. One section has a small stage intended for audio-visual use and for small social events and can be sealed off from the main building. The service lines are wall-enclosed and separate from dining area.

*Building E.* The science building has two laboratories each for physics, chemistry, and biology and two classrooms. Two chemistry laboratories are separated by a folding door which may be opened to combine classes for lectures or audio-visual programs. There is a photography darkroom in the suite.

*Building F.* Facing the athletic fields, the gymnasium is divided into three 40 by 80 sections by two electrically-operated aluminum-covered doors. Each gym has a separate entrance. The offices provide an unobstructed view of the shower rooms (four cages which may be locked by the instructor while classes are in session). Individual lockers are built into the walls. There are no hidden areas.

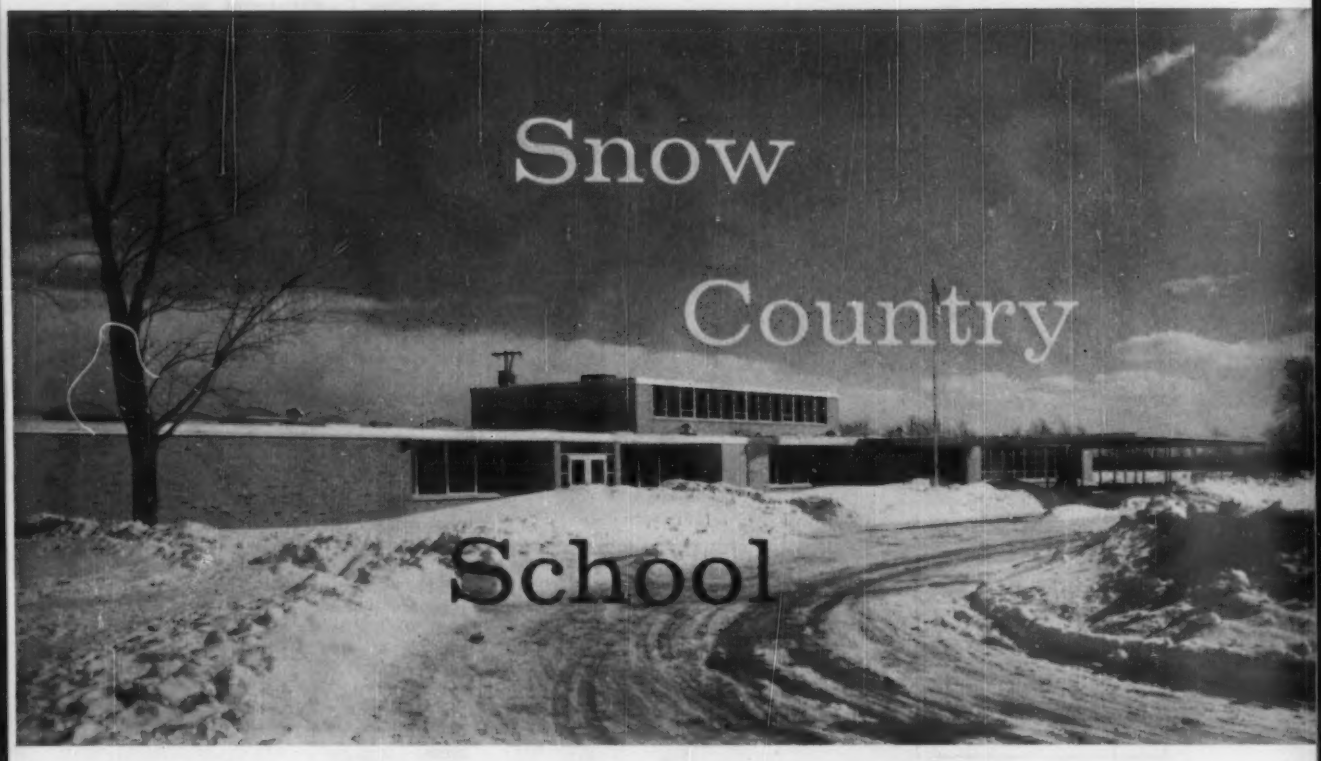
Totaling 2,719,000 cubic feet, the cubic-foot cost figures to be $1.19 while the school's 171,500 square feet cost comes to $18.81 per square foot. These figures include all fixed equipment in the science, artcraft, homemaking, and kitchen departments, auditorium seating, and stage equipment, landscaping and site development, paved parking areas, curbs, sidewalks, etc.

### Building Expandable

Planned for the future as well as the present, the building was designed to be easily expanded. All special departments such as the library, cafeteria, auditorium, homemaking suite, industrial arts, etc., are adequate for an additional 500 students. Classrooms, when needed, may be added to either end of the classroom building.

McKeesport has needed a new high school for some time. The old high school — built in two sections in 1916 and 1924 respectively — had become severely overcrowded and was not adequate for the program it was expected to carry.

At the same time, studies showed that a junior high school was desirable for McKeesport. The proposed solution was to build a new high school and to convert the old high school into a junior high school, thus relieving the pressure from 12 elementary schools and making it possible to raze three of the oldest elementary schools. ■




# Snow Country School

IVAN S. DAVIS and LOUIS C. KINGSCOTT

**Let it snow,
Let it snow,
Let it snow,
is the
refrain from the Gaylord
Elementary School, where
black windows and heated
vestibules eliminate the
unpleasant notes from
Old Winter's song**

If you have ever glanced across a blanket of newly fallen snow in a bright noonday sun or felt a room suddenly stripped of its warmth by a raw winter wind roaring through an open door, you can readily appreciate the problems that faced the designers of the Gaylord Elementary School in the heart of Michigan's winter playground.

Ivan Davis, superintendent of schools, and Norman Glasser, treasurer of the board of education, visited a number of schools in Texas, California and the city of New Orleans, where they saw and studied some of the most modern educational facilities and teaching methods. With these thoughts and ideas in mind and following further study with the architects-engineers and educational consultants, there evolved some unique solutions to their difficult problems.

The result was a three-part, ground-level structure. The central area, located behind a covered loading walkway, contains offices, health and teachers' room, utility and storage and locker rooms, and kitchen. A large multi-purpose room in the center provides facilities for a complete elementary physical education program in addition to serving the needs of the school's hot lunch program.

Vestibules, all heated, are provided at each entrance to the classrooms. Doors at both ends of the vestibule prevent winter wind and cold temperatures from entering the classroom proper when students enter and leave the building. These also serve as areas where pupils may leave their boots and rubbers. Thus, dirt, mud, and water on the classroom floor are eliminated.

**Mr. Davis** is superintendent of schools in Gaylord, Mich. **Mr. Kingscott** is with Louis C. Kingscott & Assoc., Inc., Kalamazoo, Mich.

### "Snow Blindness" Eliminated

The problem of glare and reflection in classrooms was solved by wide use of "black glass" and an unusual number of plastic dome skylights. Each classroom is equipped with black glass, which is 93 per cent effective in eliminating glare from direct sunlight and reflection

from snow during the winter months. The skylights, six in each elementary classroom and eight in the kindergarten, are constructed with plastic covers flush with the ceilings to furnish evenly distributed diffused light to all parts of the room. Lack of severe contrast eliminates eye strain, and teachers report a minimum of restlessness and confusion among students.

Visual aids may be used with no inconvenience. No costly shades or drapes are necessary for the black windows, and, with roller shades above each skylight cover, teachers need only to pull six cords, place screen and projection equipment in place and proceed with visual aid programs.

An unusual layout provides flexibility to the educational program in that each pair of classrooms which are placed back to back is separated by a sliding door partition. When the doors are open, total group participation in special programs, music, art, and visual and audio aids is available.

Second grade teachers are now using taped spelling lessons. A recorder is placed between the two rooms, and by use of ear phones pupils from both rooms practice dictated spelling and make their own corrections from tape playbacks. This saves teachers' time, provides a fascinating learning experience for the pupil, and results in a generally higher level of achievement in all grades.

Utilization of the back to back concept permits a situation where a regular classroom teacher or one special teacher with a teacher aid can take charge of both groups, thus freeing one of the teachers for parent conferences, planning or relaxation. Carrying the back to back classroom idea one step further, in the event of a teacher shortage such an arrangement would permit a teacher-mother combination where the mother might supervise play periods, singing and other group activities.

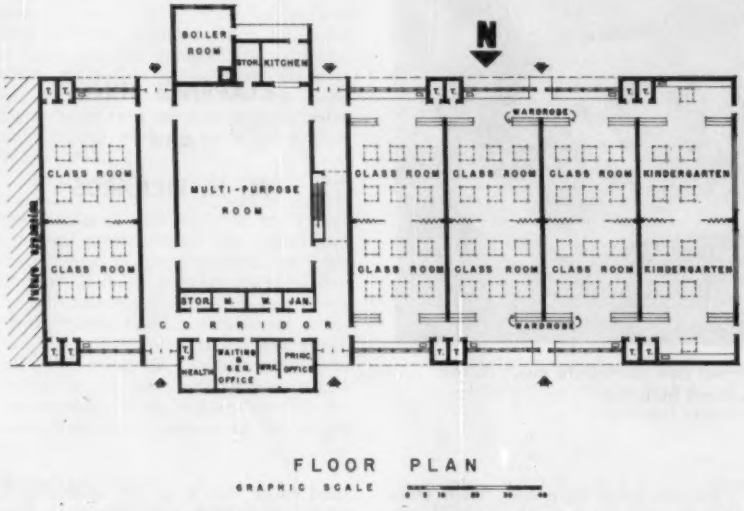
### Unusual Entrances

Sliding doors between classrooms are so constructed that they are not tempting for pupils to open and close but not too heavy for teachers to operate without the aid of custodial staff. This encourages teachers to open and close the doors as programming progresses during the day. Each of the ten elementary and kindergarten classrooms is a self-contained unit with a separate entrance. Students can enter or leave the room without disturbing classroom activity in adjoining rooms.

There is no formal corridor or classroom doors. Passageways are formed by six foot high prefabricated storage wardrobe and teachers' closet units six feet from the wall at one side of the classroom. Absence of corridors in the traditional sense and the absence of doors to classrooms has not affected the instructional program adversely; contrary to the expectations of skeptics, teacher morale is very high. Because of acoustical qualities and building plan, sound does not travel from one room to the other. The hum of activity from one classroom is scarcely noticeable to a visitor standing in the open corridor, and the old concept of "teaching behind closed doors" has been eliminated, much to the satisfaction of the teachers and students alike.

Multiple use has been gained from corridors. Children are given opportunity to develop independent work habits at work counters installed along the corridors. As time goes by, teachers needing additional space for class activities find more and more use for this area. It provides wardrobe space where children can find their wraps with a minimum of confusion. If necessary, it is possible to relocate storage wardrobe units and other movable equipment to provide different instructional areas to permit small group activities such as reading, or regular or remedial study.

Construction costs totaled $304,075 for an area of 22,480 square feet, a cost per square foot of $13.04 and a cubic foot cost of $.83. ■



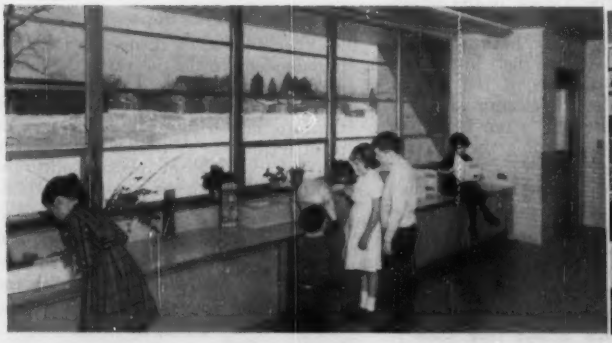

FLOOR PLAN

GRAPHIC SCALE

Architect was Louis C. Kingscott & Assoc., Inc.

Bottom left: multi-use corridors all have work counters. They also supply wardrobe space.

Below: back to back classrooms with the sliding door partition open.



# Specialists Can Plan A Better School Plant

CLARENCE HINES
and
M. H. RICKARDS

As administrative specialist, the principal can contribute much to the planning of a new school building.

**Architects often resent working with many people. "It's a waste of time." But one architect estimated that the information given him by staff specialists for a $1.5 million school building saved him 1600 hours of office work.**

Various ways have been tried from time to time and from place to place in the planning of school buildings. In most instances, a reasonably adequate school plant has resulted, regardless of the method used. The purpose of the writers is not to say that there is a fool-proof method and that they have found it. Rather, it is to say that there are certain advantages in the use of the various specialists on the school staff to insure that the building will serve better all phases of the school program it is designed to house.

Many school districts have relied heavily on the architect in planning a new building. Most architects are competent individuals in their own field, that of structure and design. Few of them, however, are educators, and many have not had great experience in designing schools. This is less true than it used to be, but it is still surprising to educators to learn how little some competent architects actually know about what goes on in a school from the standpoint of the instructional program.

### Some Rely on the Superintendent

Other districts have relied on the superintendent to do the planning, allowing him to furnish the educational information and the architect to translate the information into a building plan or plant facility. In still other districts, the board has taken the responsibility for planning, although the educational train-

**Dr. Hines is professor of education at the University of Oregon in Eugene while Mrs. Rickards is director of publicity for the Eugene, Ore., schools.**

ing and experience of the members is usually limited. In the "good old days," the board frequently called in several architects and then just "bought a plan" from those which the architect had previously prepared. It might not have been adapted, nor adaptable, to the site, usually chosen already. It probably did not fit the instructional program, but board members knew little of these things. Some boards, too, especially in recent years, have left the planning to lay committees in order that the community might be better satisfied with the building. None of these can be recommended as the sole method to be used.

### Staff Involvement Important

Staff involvement, or the use of specialists on the school staff who are experts in their respective fields, appears to offer one of the surest ways to guarantee a functional building. These individuals, regardless of their field of major interest or activity, "know the score." They know the real down-to-earth needs for good instruction in their subjects or good performance in their service areas. Consultation with them, too, is the democratic approach for board and administrator to take. It is true that specialists may desire much more than the money at hand will provide, but if they help with the planning, they will have to help also with some of the decisions which place first things first. There is less cause for complaint, or less cause for a charge that some other department was favored, when all have had a hand in the planning.

The procedure for making use of staff specialists is not a complicated one. If the district is sufficiently large to have a central administrative and supervisory staff, many of these experts are close at hand. If it is not, there are specialists in the classrooms who will give freely of their time to help plan better facilities. Committees of teachers and principals, including, if possible, some who will be in the new building, can furnish expert opinions on matters vital to the more functional aspects of the school plant.

### Everybody Helps

Whether the staff specialists are supervisory personnel or teachers, they should be consulted at the time the educational specifications are being prepared for presentation to the architect. Subject areas such as physical education, industrial arts, homemaking, science, foreign language, mathematics, language arts, social studies and many others have their own peculiar needs. The service areas, the library, lunchroom, health suite, audio-visual aids and transportation also require representation in the planning of a new school building. Those responsible for the maintenance of the building, for its mechanical and electrical systems, certainly make a valuable contribution to the planning. There is a chance for everyone "to get into the act."

Someone must assume chief responsibility for the preparation of the educational specifications. Usually, this task falls to the administrator, the superintendent or the supervising principal, as the executive officer of the board. As a preliminary to the preparation of the first draft, specialists should be invited to submit, in writing, with sketches if possible, a statement of needs. It is particularly helpful to have sketches of floor layouts and cabinet work. The individual responsible for preparing the educational specifications can then put these together in one general statement. After this first draft has been compiled, the individual sections should then be checked by those who are specialists in the various areas. In a revised form, these are then discussed with the architect by the administrator and the individual specialists.

### Specialists Check Preliminary Plans

When the architect has translated the educational specifications into a preliminary plan, the administrator will check the pertinent parts of it with the various specialists. Such suggestions as they have for change can be included in the plan before it is presented to the board for approval and authorization to proceed with working drawings. It is surprising how many mistakes can be discovered and corrected before they are perpetuated in masonry and wood by using this careful process of consulting, checking, revising and re-checking. One or two individuals cannot possibly detect as many errors as a group of specialists working together as a team.

### Plan Has Advantages, Disadvantages

That there are both advantages and disadvantages to using staff specialists in building planning cannot be denied. It is a time-consuming process, but what really worthwhile procedure involving people is not? Some architects resent working with so many people; they consider it a waste of their time. On the other hand, if careful planning is done, it can actually save time. One architect has estimated that, on a building costing $1,500,000, he was saved 1600 hours of work in his office by having careful and complete information from a staff of specialists. A disadvantage is that some staff members cannot give and take; they want all for their own department and care little for others. For these, it is a good experience to work with others on a project where one seldom gets all that he would like to have because the finances available are limited.

Among the more important advantages of staff planning is the fact that a better, more functional school plant results. The staff has to make value judgments. It cannot have everything, at least in most districts, and so must decide which things come first. Staff morale is better after such planning, for all have helped to plan and so are better satisfied to live with the results. From the standpoint of the school board, it can feel greater assurance in accepting the building plan for it knows that it has been checked and re-checked many times by a group of experts, not just by one or two individuals.

Planning by use of staff specialists is in keeping with getting the most possible for the school building dollar. It is in keeping with the best democratic practice in school administration. The procedure, wherever it has been given a fair trial, has proved itself to the satisfaction of all. It has much to commend it at a time when the best possible buildings are required for the quality of instruction now required of our public schools. ■

**Maintenance personnel, who must keep the school plant in operation, have first-hand knowledge of mechanical and electrical systems for the new school.**

# Federal Activities in Education

ELAINE EXTON

Even though the elementary and secondary schools and institutions of higher education in our nation are supported principally from state and local sources, during the fiscal year 1959 the departments and independent agencies of the United States Government conducted about 440 educational programs at a cost of at least $3.8 billion. This estimate does not include the cost of education in the District of Columbia, nor the cost of educational activities of international organizations in which the United States participates.

The majority of this expenditure is defense-connected. Only a small percentage of this federal money was channeled through the Office of Education in the Department of Health, Education, and Welfare, which is the only agency charged by the Congress with responsibility for promoting the cause of education throughout the country.

Federal educational activities are not only extensive but their administration is scattered throughout the federal structure. Practically all of the departments and other agencies of the Federal Government are conducting educational programs. In the main these are carried out in furtherance of the principal functions of the respective agencies. The number of persons directly affected by a single activity varies widely, ranging all the way from one individual to millions of people.

The manifold educational activities of the United States Government, moreover, cover all levels of education from elementary schooling through graduate training and beyond, into a vast area of federally supported research. In their entirety they afford instruction in virtually all subject fields known to man.

## New National Study

These are a few of the thought-provoking facts brought out by a comprehensive study of the educational activities of the Federal Government recently completed in the Legislative Reference Service of the Library of Congress for the House Committee on Education and Labor at the request of its chairman, Representative Graham A. Barden (D., N. C.).

Although primarily prepared for the use of members of Congress, the three-volume report on *Federal Educational Policies, Programs and Proposals** by Charles A. Quattlebaum, principal specialist in education on the staff of the Legislative Reference Service, merits careful consideration by all who are interested in American education and in what our Government's relations to education should be. A former school administrator, Mr. Quattlebaum has served for a number of years as consultant to committees and members of Congress on matters of legislative policy affecting education and has prepared many reports designed to serve as informative bases for legislative decisions.

Up-to-date data on the status of education in the United States, digests of a number of educational issues before the Congress, a review of the evolution of federal educational policies, and the pro-and-con attitudes of national organizations concerning these policies are among the subjects dealt with in Part I of this report (192 pages).

In Part II (372 pages) the approximately 440 federal educational activities are individually described, and information is supplied on the purpose, history, legal authorization, and financial obligations for each activity. Continuing this analysis, Part III (234 pages) summarizes the far-flung educational activities of our government in terms of their methods of administration, the levels of education concerned, the geographical areas covered, and the number and types of persons affected by the programs.

## Educational Activities Defined

In determining which federal activities to include in this inventory, the definition of "education" and "educational" given in *Webster's New International Dictionary* was used. This defines the word *education* as meaning "the impartation or acquisition of knowledge, skill, or discipline of character," listing "training" as a synonym of "education." It describes the word *educational* as meaning—"of, pertaining to, engaged in, or subserving education; dealing or associated with education; belonging to or applied to the field of education."

In using this broad frame of reference, Mr. Quattlebaum points out that although the programs reviewed are "educational" under this definition, there are wide differences of opinion as to whether the expenditures for some of the programs should be charged to educational or to other purposes, since frequently the primary or ultimate objectives are non-educational in nature. For this reason, he cautions, "it would be impossible, from data presently available, to arrive at a generally acceptable estimate of the total expenditures for federal educational activities."

## Higher Education Programs

Many more of the federal educational programs are concerned with higher education than with any of the other educational levels. A number of federal agencies operate specialized institutions of higher education. Examples are the Military Academy at West Point, the Naval Academy at Annapolis, the Air Force Academy at Colorado Springs, the Coast Guard Academy at New London, Conn., and the Merchant Marine Academy at Kings Point, N. Y. All of these provide four years of college level courses leading to bachelor of science degrees. Gallaudet College for deaf persons and Howard University primarily for Negro students are also mainly supported by federal funds.

Besides the Graduate School of the Department of Agriculture and the National Bureau of Standards Graduate School, other well-known examples of federal institutions providing graduate study are the Industrial College of the Armed Forces and the National War College, and the Foreign Service Institute of the Department of State.

Certain other federal activities facilitate college attendance. Thus, veterans

*Single copies of each of the three volumes comprising the report on *Federal Educational Policies, Programs and Proposals* may be obtained free on request, while the limited supply lasts, from the Committee on Education and Labor of the U. S. House of Representatives, Room 429, Old House Office Building, Washington 25, D. C.

taking training at institutions of higher learning (or schools below college grade) under the "Readjustment" program for Korean War Veterans are paid education and training allowances by the Veterans' Administration to assist them in meeting the expenses of tuition, fees, books, supplies, equipment, and subsistence so that they may attend educational institutions of their choice.

Under Title II of the National Defense Education Act funds are established at cooperating institutions of higher learning for the making of low-interest, long-term loans to needy and qualified students to assist them in completing their higher education. The law requires each participating institution to pay $1 to the student loan fund for every $9 of the federal contribution.

Many other federal educational programs utilize the facilities of nonfederal colleges and universities. Some federal agencies make arrangements with institutions of higher education for the training of civilian or military personnel. Others enter into agreements with colleges and universities for the carrying out of research projects.

In a recent address Homer Babbidge, Jr., Assistant Commissioner for Higher Education, U. S. Office of Education estimated that federal money totalling $1.5 to $2 billion now "flows each year to or through American colleges and universities." He further stated that "70 per cent of all research conducted by our universities is federally financed."

### Other Projects

Practically all of the Federal Government's departments and agencies operate programs of some kind for the inservice training of employees and personnel. Although varying widely in nature and scope, these projects constitute a leading federal activity in the field of post-secondary education not necessarily given in institutions of higher learning. The programs of the National Academy of the Federal Bureau of Investigation, the Border Patrol Academy of the Immigration and Naturalization Service, and the Postal Inspector Training School of the Post Office Department may be placed in this category.

According to the Quattlebaum report federal activities in education generally are programs of specialized or technical training, provisions for the education of special groups, support of training, particularly in agriculture and the mechanic arts, and other activities not aimed at the promotion of basic elementary and secondary education, nor higher education in general.

Although the number of federal agencies that provide or directly administer activities in elementary and secondary education seems impressive as described in *Federal Educational Policies, Programs and Proposals* and as sketched out below, this study brings out that the United States Government contributes relatively little to the total financing of elementary and secondary education in our nation today.

### Federally-Operated Schools

In America, where both traditionally and under the constitution education is considered primarily a state and local responsibility, it may come as a surprise to many that a number of federal agencies directly operate elementary and secondary schools.

The Army, Navy, and Air Force, for instance, administer primary and secondary education programs for overseas school-age dependents of military and civilian personnel in more than 80 foreign countries.

In 285 boarding and day schools operated by the Bureau of Indian Affairs of the Department of the Interior in 1959 elementary and secondary education was furnished more than 41,000 Indian, Eskimo, and Aleut children of one-fourth or more native blood, residing on non-taxable land, and having parents who maintain tribal relations.

During the school year 1957–58 about 180 Aleut children in the Pribilof Islands received instruction in federal schools operated by the Bureau of Commercial Fisheries, Department of the Interior, with technical advice of the Alaska Department of Education.

The Department of the Interior also aids in the education of the native population in American Samoa and in the Trust Territory of the Pacific Islands where public schools are partly supported from local revenues and partly by Congressional appropriations for these territories. Educational opportunities for the indigenous population in the Northern Mariana Islands portion of the territories is provided by the Navy. Still another distant place where a federal agency is operating schools is the Canal Zone, whose educational system (kindergarten through grade 12 and junior college) is run by the Canal Zone Government.

In the United States, elementary and secondary schooling is being furnished by the U. S. Public Health Service for some patients at the National Leprosarium at Carville, Louisiana, and by the Bureau of Prisons of the Department of Justice for some inmates of federal penal and correctional institutions, as part of the educational program to help prisoners acquire knowledge and occupational skills that will enable them to adjust to society and earn a livelihood upon their release.

### Federal-State Co-operation

The U. S. Office of Education has statutory responsibility for the federal aspects of administering several important federal-state co-operative programs, including federal grants-in-aid for the further endowment and support of land-grant colleges, vocational education, and the various activities established by the National Defense Education Act of 1958.

In cooperation with the states, some other federal agencies, however, are authorized to have similar administrative relationships to schools.

The U. S. Department of Agriculture federally administers the National School Lunch Program distributing funds and food to state educational agencies which furnish mid-day meals to students of participating schools across the nation. About 14.1 million children aged 5 to 17 benefited from this program in 1959; and in the same year approximately 78,216 schools and 1071 child-care centers participated in the Special Milk Program of the Department of Agriculture.

With minor exceptions, 25 per cent of all money received from the national forests during each fiscal year is paid to the states by the Forest Service of the Department of Agriculture for the benefit of the public schools and public roads of the counties in which the national forests are located. Many of the states and territories receive money from this source. Our Government also pays to Arizona and New Mexico, as income to their common-school funds, a proportionate share of the gross receipts from the national forests in those states.

### Federal Surplus Property Distribution

Equipment, hardware, furniture, instructional tools, and other supplies which are surplus to the needs of the Federal Government are made available for donation to schools, school systems, colleges and universities, hospitals, clinics, health centers, medical institutions, and authorized civil defense organizations through a program cooperatively administered by the General Services Administration and the Department of Health, Education, and Welfare.

After determining what surplus property would be of use to federal agencies the General Services Administration offers the remaining articles to the Department of Health, Education, and Welfare, which in turn allocates them to the State Agency for Surplus Property in each state, many of which are set up within the State Department of Education. These provide for their transfer to eligible institutions.

Secretary of Health, Education, and Welfare Arthur S. Flemming recently announced that the total acquisition cost of tools, equipment, and other personal property donated for health, education, and civil defense purposes during the fiscal year 1960 reached $400,600,692. Declaring that "more than 75 per cent is distributed to educational institutions," he said that "the surplus property program, as it has developed, has become one of the largest single sources of federal aid to schools."

Reporting that in the past year science teachers have picked up approximately $60 million worth of surplus scientific equipment, he attributed their growing use of this program in part to the establishment of a chain of 20 "super markets" at major military installations across the country to distribute this equipment directly to science teachers. This is in addition to the approximately $75 million paid to the states for laboratory equipment and minor remodeling programs through the National Defense Education Act since its activities to help strengthen the teaching of science and mathematics got underway more than a year and a half ago.

The Federal Property and Administrative Services Act of 1949, as amended, also provides for the transfer of federal surplus real property, including land, buildings, fixtures, equipment, and material situated

(Continued on page 42)

the AMERICAN SCHOOL BOARD JOURNAL

Guest Editorial by Dr. John F. Travers

## LEADERSHIP AND ADMINISTRATION

EDUCATIONAL administration has undergone a radical change within the past few years. From a narrow, strictly factual approach to this field, attention is being directed to the theory of administration. Administrators are beginning to ask "why" rather than "what." The most recent research shows concentration on such terms as theory, authority, responsibility, communication, etc.

Unfortunately, the leadership concept has received little thought from those advocating the new approach. American opinion today reflects group assent and asserts the superiority of committee thinking. Thus, we see administrative texts stating that administrators should "go together with," instead of "going in front of" subordinates. Or, if a stranger walked into a meeting of teachers and principal, he should be unable to determine who is the principal.

This type of thinking is positively dangerous with regard to our schools. Is this the leadership image we wish to pass on to youngsters? But this is exactly what is taking place. A committee of teachers meets and passes certain resolutions. A group of parents protests over the science curriculum. Pupils are grouped into committees to prepare reports, to formalize decisions, to render discipline, etc.

These processes are excellent, *provided* they do not go to extremes. This is the danger in American education today. Initiative and leadership are not being developed in pupils. If anything, these qualities are viewed with suspicion, and society tends to label such individuals as authoritarian. This is the person who has an idea of his own, or who dares to differ on basic policy. As Whyte says:

> Anti-authoritarianism is becoming anti-leadership. In group doctrine the strong personality is viewed with overwhelming suspicion. The cooperative are those who take a stance directly over the keel. The man with ideas — in translation, prejudices — leans to one side or, worse yet, heads for the rudder. Plainly, he is a threat. Skim through current group handbooks, conference leaders; tool kits, and the like, and you find what sounds very much like a call to arms by the mediocre against their enemies.[1]

It is commonly accepted that the schools have the duty of training the future citizens, and the future leaders. But it is psychologically sound to state that learning by imitation is a powerful methodological tool. Therefore, if students see that decisions are made only on a group basis, this becomes the basis of their own decision making.

No attempt is here being made to depreciate the group process. As Griffiths states:

> Although the literature of decisioning is quite clear on the point that individuals make better decisions thru groups, it is entirely reasonable that a wider range of possible solutions could come from the use of groups. The groups should not be required to solve the problem or settle on a single solution, but they could be asked to present possible solutions.[2]

Thus far, we have endeavored to point out the pitfalls of relying solely upon the group for decision making and the resultant difficulty that arises when the individual is forced to make a decision for himself.

### The Leadership Function

In discussions of administrative theory, the time has come for a more extensive treatment of leadership. This leadership concept should flow from the school board and superintendent throughout the system. Members of the school board are individuals possessing the power of choice. This power should be exercised by each and every member.

The leadership function is based upon the authority that such individuals acquire upon assuming positions of responsibility. It is indeed foolish to ask a person to bear responsibility without also delegating the authority necessary to successfully discharge the responsibility.

It is not the purpose of this article to investigate the nature of authority. Whether the reader feels it flows from coordination, from the consent of those governed, or from the nature of the position, is here inconsequential. What is significant is that authority exists. As Sears says:

> In all alike (forms of administration) there must be management — to fix upon purposes, to provide personnel and materials, and plan for and organize and direct the program of activities. Further, this managing can go on only if someone is possessed of *authority* to decide and command.[3]

Here Sears is basing his classification of administration upon Fayol's divisions of planning, organizing, directing, coordinating, and controlling.

### The Exercise of Leadership

While there may be disagreement on these divisions of administration, or on the nature of authority, nevertheless, there should be agreement that with authority, there goes leadership. Since both the board and the superintendent exercise authority, is a clash in leadership function to be expected?

Definitely not. The division of labor within the school system has the board performing the legislative function, and the superintendent carrying out the executive function. Although the superintendent discharges board policies, he should not be thought of as a mere consultant, but should also be considered a leader within his own sphere. In the office of superintendent, there resides the authority and knowledge necessary to direct, coordinate, and control. This authority cannot be fully utilized unless the person occupying the position exercises to the greatest extent possible the leadership function. Without digressing, some aspect of authority is derived from the respect and co-operation of those governed. This will not be forthcoming unless the administrator, here the super-

(Concluded on page 50)

[1] William H. Whyte Jr., *The Organization Man* (New York: Doubleday and Co., 1956), p. 60.

[2] Daniel E. Griffiths, *Administrative Theory* (New York: Appleton-Century-Crofts, Inc., 1959), p. 104.

[3] Jesse Sears, *The Nature of the Administrative Process* (New York: McGraw-Hill Book Co., 1950), p. 8.

# LO-TRAN 12.5®

HEAT AND GLARE REDUCING

WINDOW GLASS

BETTER LIGHT • BETTER SIGHT

**.....Used in the "SNOW COUNTRY"**

**Gaylord, Michigan Elementary School**
**for**
**Minimum "See-In"**
**Restful "See-Out"**

# efficient glare and heat reduction for schools and air conditioned buildings

Genuine glare reduction—not just creation of a neutral tone—is essential to permit the architect or lighting engineer to provide "balanced brightness" in the modern classroom or office. Hence, Houze Glass produced, at the request of members of National Council for Schoolhouse Construction and others, Lo-tran 12.5 Window Glass—a neutral gray glass which limits the transmission of daylight to 12.5% while retaining great color fidelity when "looking out."

Houze "Lo-tran 12.5" falls well within the control factor required of best sun glass lenses and is the only window glass marketed nationally that can provide this protection. Colors, viewed through Lo-tran are entirely undistorted and, in fact, are somewhat enhanced by heightened contrast.

**See-In Protection** The depth of color used in Lo-tran is the only shade which completely protects rooms from "seeing-in" under daylight conditions. This is particularly useful in one and two story classrooms or offices where outside annoyances can be a factor.

**Reduced Maintenance and Investment** Lo-tran's efficiency and vision control from the exterior is so great that many costly building accessories such as blinds, draperies, sunshades and extensive roof overhangs can generally be omitted depending upon conditions.

Spectral comparisons of Lo-tran and competitive glass verifications of light and energy transmission figures, brightness survey charts and other detailed information will be sent on request.

HOUZE Lo-tran ®

# HOUZE GLASS CORPORATION

*Colored and Technical Glass*

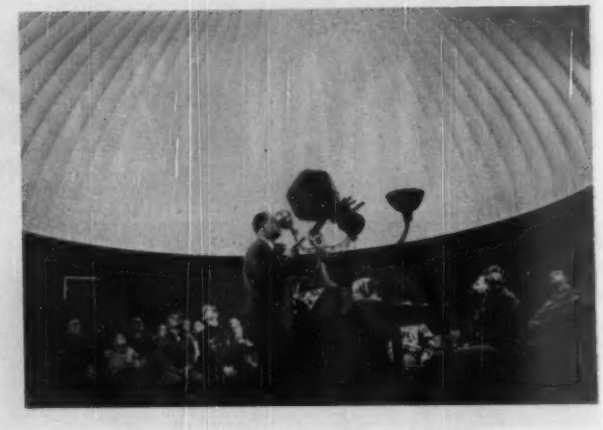
POINT MARION, PA.



(For more information from advertisers, use the postcard on page 61)

# The Planetarium in Modern Education

**HERBERT N. WILLIAMS**
Spitz Laboratories, Inc.
Yorklyn, Delaware



The value of audio-visual equipment in modern education is greatly enhanced if it is an integral part of the course being taught instead of a mere gadget. For this reason, the planetarium is considered not merely an educational aid, but a stimulating and rewarding experience for both children and adults. By opening up an area of learning extremely difficult to explore on the elementary and secondary levels, the planetarium promotes intellectual curiosity not only for more astronomy but for more of the subjects that are becoming an integral part of the space sciences: mathematics, chemistry, physics, and geography. Teachers have found the planetarium tremendously helpful in explaining elements of spherical geometry. The instrument thus serves to break down artificial barriers between different branches of scientific knowledge.

Interest in a planetarium exhibition is not confined to any one age group. The instrument helps interpret much of their daily world to the younger children. For junior and senior high school youngsters, the planetarium not only illustrates the principles of astronomy but also, as previously mentioned, is a valuable adjunct for many other courses. The stimulus the planetarium provides to adult education creates a center of activity and learning and serves to promote good will for the school within the community.

A typical example of the programming of an astronomy course within a school system may be found in the Prince George's County Schools, Maryland. The program there is under the overall direction of Howard B. Owens, supervisor of secondary education, county board; Ferdinand S. Cardano, helping teacher in science education; and Mrs. Maydelle B. Stewart, director of the planetarium.

### Large Classroom From Old School Adapted

The planetarium is housed in the Audio-Visual Materials Center, formerly an elementary school building within which a large classroom has been ingeniously adapted for planetarium purposes by setting three quarters of the room aside for the 20-foot dome, with a half partition extending down from the ceiling to contain it.

The remaining quarter of the room is utilized for a projection screen for slides and films that are shown during and after the demonstrations. An overhead projector is also used by the lecturers for over-lays and other illustrations. This permits children to watch diagrams being made. Adjoining the planetarium a small room, now used to house equipment and supplies, will eventually become a permanent projection room.

Co-operation from the various departments of the schools has helped to perfect the planetarium. The music department, for example, has assisted with the selection of appropriate music provided at specific times during the show by means of a tape recorder. Special sound effects are included on the tape, such as the humming of insects in the evening and the crowing of a rooster in the morning. Eight small speakers behind the dome, two for each quadrant, are the sound outlets.

The present Prince George's County Planetarium has evolved from very humble beginnings. The first planetarium equipment used by the system was a Spitz Junior Planetarium, which projects on a portable canvas dome stretched over an umbrella-like framework of aluminum rods. It is still in use as a means of introducing astronomy to classes and is circulated continuously among the schools.

### Astronomy-Teaching System

A regular method for teaching astronomy was devised for use by the entire school system. A specially prepared manual explains the assembling of the "Junior" unit and the demonstration lessons. After giving these, the teacher requests a visit to the county planetarium. She is sent an outline of astronomy concepts appropriate to her class age level, which provides a good background for the students' visit.

Post-visit activities include answering a questionnaire and other possible follow-ups, such as a star party with a portable telescope for sky observation.

Another direct result of the interest inspired by the astronomy lectures is an extracurricular activity in telescopes. A dozen or so secondary school students attend classes once a week to grind six-inch reflector telescope mirrors. Under the expert guidance of a member of the National Capital Astronomers, the classes meet in a former coal-storage room in the basement appropriately equipped.

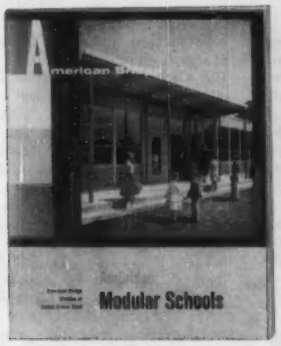
Last year, in addition to regular staff, guest lecturers came from nearby colleges and universities as well as from various federal governmental agencies involved in space technology. Student teachers studying at the University of Maryland use the planetarium for in-service training, as do many of the county's science teachers.

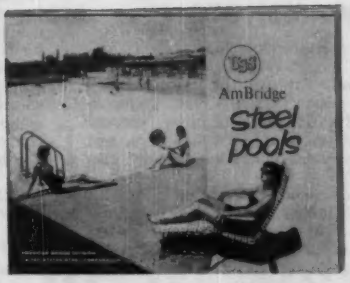
Outside groups that found the county planetarium valuable included Boy and Girl Scouts, as well as civic, business, and fraternal organizations.

### Nation-Wide Programs With Common Goal

The Prince George's program is typical of many throughout the nation. All have one goal in common: to meet squarely the growing challenge of space education by employing the best means at hand to provide the coming generation with the basic facts about the new element which it will be expected to understand even more thoroughly than its parents understood their own geography. The addition of a new dimension in today's thinking creates problems that will multiply as time passes, and one purpose of the planetarium is at least to outline these problems so that alert minds will start to work upon their solutions.

Already having proved itself as one of the most exciting teaching tools ever developed, the planetarium is the best overall device for putting planets, stars, galaxies, and nebulae into their proper perspective to determine which ones man can really and reasonably expect to visit. As his knowledge grows and his abilities expand, it is more than likely that the unattainable will diminish as the possibilities increase. ■






# If you're planning to build a new school, stadium or swimming pool, you'll want to send for these free booklets

These books describe in detail how American Bridge can build you a beautiful new school, an expandable stadium or a weather-proof steel swimming pool . . . quickly and economically. Just fill in the coupon, and check one or all of the blocks. Send now.

*USS is a registered trademark*

**American Bridge Division of United States Steel**

**American Bridge Division**
**United States Steel**
**Room 1831, 525 William Penn Place**
**Pittsburgh 30, Pa.**

Please send me the following information:

- ☐ *USS AmBridge Modular Schools*
- ☐ *USS AmBridge Standard Steel Stadiums*
- ☐ *USS AmBridge Steel Swimming Pools*

Name _____

School _____

Address _____

City _____ Zone _____ State _____

## WORD FROM WASHINGTON

(Continued from page 37)

on this land. Through this means during the fiscal years 1951 to 1959, inclusive, eligible educational institutions secured 11,880 acres of land, 6402 buildings, and other improvements which originally cost $71,310,064.

Some federal units work directly with local schools in carrying out their functions. The program of school assistance in federally affected areas administered by the U. S. Office of Education is an example of this type of activity.

Through Public Laws 815 and 874, Congress has recognized that the United States has a responsibility for furnishing financial assistance for the construction and operation of public schools in areas where a severe financial burden has been imposed by federal activities because of withdrawal of real property from the tax rolls through federal acquisition or because of a substantial increase in school enrollments of children who live on or whose parents are employed on federal property.

Applications for such assistance from local educational agencies are submitted to the U. S. Office of Education through the respective state educational agency. Payment of the federal assistance, however, is made by check directly to the eligible local districts and federal officials work directly with the local school officials in reviewing claims for assistance.

During the first eight years the school construction program under Public Law 815 was in effect (1950–51 through 1957–58) a total of $1.15 billion in federal funds was reserved for building school facilities. This money, together with an estimated $358 million provided for these projects by local school districts, was used to construct 42,562 classrooms and related facilities to house an estimated 1,232,665 pupils.

During the first eight years Public Law 874 has been in effect, Congress has appropriated a total of $618,170,000 to carry out its provisions. In the 1957–58 school year, 3344 school districts were eligible for approximately $117 million in federal funds for maintenance and operation due to 1.2 million federally-connected children.

Through the Urban Renewal Program of the Housing and Home Finance Agency, participating local public agencies, including schools, are allowed credit for the cost of putting up public buildings.

A significant portion of the credit allowed for noncash local grants-in-aid has been for the construction of schools and related facilities. From the inception of this program in 1949 through May 31, 1959, 80 projects approved in 54 localities throughout the United States and its possessions have been credited with the provision of almost $67 million (of a total $105 million worth of school construction) as non-cash local grants-in-aid. Through this activity 113 schools are being built in projects underway in 21 states, the District of Columbia, and Puerto Rico.

In addition, the Housing and Home Finance Agency has been carrying out an extensive program of advancing federal funds to local government agencies for the planning of public works, including school projects. Under current arrangements such advances are made directly to the local government agencies and are repayable without interest when the construction is undertaken. Projects completed under this program have provided educational facilities throughout the nation.

### Services for School Teachers

The U. S. Office of Education, of course, engages in many activities serving school teachers. These include conducting leadership conferences, administering funds for guidance and language institutes authorized by the National Defense Education Act and for related NDEA scholarships and fellowships, and arranging for exchanges of teachers with other countries.

Besides gathering information in this field and conducting special studies, the Office personnel compile statistical reports on teacher employment, analyze trends in teacher preparation, and issue professional materials for curriculum development.

A number of other federal units also sponsor teacher-related activities.

18,550 science and mathematics teachers (of whom 550 were at the elementary and 16,000 were at the secondary levels) received supplementary subject matter training this summer at 392 institutes financed by National Science Foundation grants to 271 colleges at a total cost of $21.5 million.

In 1959–60 about 1500 additional school teachers participated in similar Academic Year Institutes supported by the Foundation. Moreover, summer fellowship grants providing for individually designed programs of study were awarded to 628 secondary school instructors. Research and laboratory training projects administered by 86 educational institutions provided research experiences for 812 teachers.

During this period the National Science Foundation also furnished funds for more than 182 inservice institutes largely for

(Concluded on page 44)

FOR BAY CITY JUNIOR COLLEGE:
IRONBOUND* CONTINUOUS STRIP* MAPLE FLOOR
12,000 sq. ft. of 33/32" Ironbound Maple Flooring in Bay City Junior College gymnasium, Bay City, Mich. Arch.: Brysselbout-Starke & Assoc. Inc., Bay City. Gen'l Contr.: C. G. Engelhardt Constr. Co., Bay City

*— and six good reasons why:*

NATURAL BEAUTY of Northern hardrock maple has warm, attractive appearance. And the beauty remains — indefinitely.

LASTING DURABILITY is assured by the 33/32" thick strips of Northern Hard Maple.

UNIFORM RESILIENCY, provided by layer of cork under flooring, prevents sore ankles and leg muscles.

LONG RUN ECONOMY is assured by the way Ironbound keeps its original beauty and stability for generations.

DRI-VAC PROTECTION of Woodlife PENTA-preservative impregnated in flooring combats moisture absorption, termites and fungi.

IRONBOUND FLOORS are installed by franchised floor contractors only and guaranteed by both manufacturer and installer.

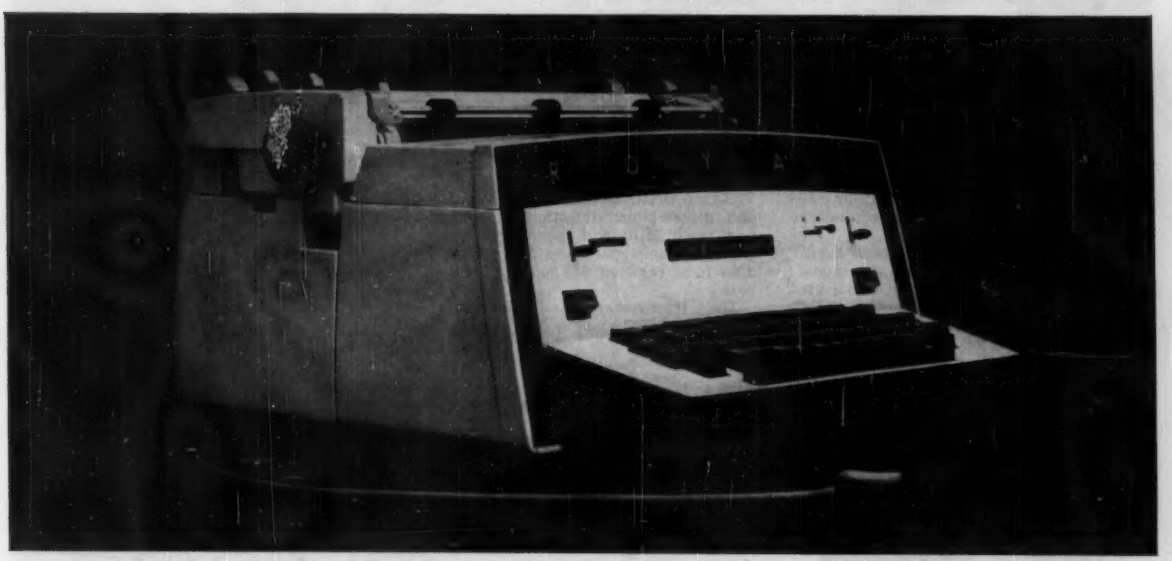
For full details on the benefits of Ironbound, write Robbins Flooring Co., Reed City, Mich., Attn: Dept. AJ-960.

* TM Reg. U.S. Pat. Off.

ROBBINS FLOORING COMPANY
Reed City and Ishpeming, Michigan
Manufacturers of Ironbound* Continuous Strip* Maple Flooring, PermaCushion* Resilient Floors and other hardwood flooring

# SCHOOLS BUYING 45% MORE ROYAL ELECTRIC TYPEWRITERS IN 1960*

*May-June, 1960 compared to May-June, 1959 (the heavy school buying months.)



because schools as well as business firms can count on Royal's reputation for greater sturdiness, better service.

Schools all over the nation are opening in September with new Royal Electric Typewriters in business education classrooms. The reasons are simple:

**1.** Business firms are demanding more and more girls thoroughly trained on electric typewriters. (Business is buying more *Royal* Electrics than ever.)

**2.** Royal Electrics meet these school equipment requirements: They stand up under hard daily use . . . Royal service is immediately available...special Royal Electric features make learning easier.

If you have not fully anticipated your classroom needs for this fall, call your Royal Representative for a free demonstration, at your convenience.

ROYAL® ELECTRIC

ROYAL McBEE CORPORATION, MAKERS OF THE FAMOUS ROYAL LINE OF TYPEWRITERS SINCE 1906.



(For more information from advertisers, use the postcard on page 61)

## WORD FROM WASHINGTON

(Concluded from page 42)

secondary school teachers and for training and work expenses to enable 120 traveling teachers to conduct science demonstrations on request in designated areas of the country. All told the National Science Foundation finances about 40 other programs aimed at the improvement of education in science, math, and engineering.

The Women's Bureau of the U. S. Department of Labor encourages mature women college graduates who may be interested in school teaching to take supplementary courses to qualify for teaching certificates and urges colleges and universities to furnish this type of training. About 150 colleges are presently offering such programs.

The Federal Reserve Board and Federal Reserve banks assist the Joint Council on Economic Education and affiliated state organizations in conducting regional workshops for teachers of economics. About 1400 teachers and supervisors in secondary schools attended these workshops in 1958.

Demonstrations in methods, techniques, and use of farm and home electrical services and equipment are conducted by the Tennessee Valley Authority for secondary schools in that area.

The instructional materials made available by federal agencies free or at nominal cost that would be suitable for school use are far too numerous to mention here. They range from facsimile reproductions of the Declaration of Independence, Bill of Rights, and U. S. Constitution in the National Archives to fine arts exhibitions circulated through the Traveling Exhibition Service of the Smithsonian Institution and traveling high school science libraries sponsored by the National Science Foundation. And, as Seerley Reid, Assistant Director of the Office of Education's Educational Media Branch, has commented: "With films, as with publications, the resources of our Government are fabulous!"

### Federally-Sponsored School Activities

Certain other Government agencies sponsor activities that are carried out in the schools. During the school year 1958–59, for instance, 92 junior division units of the U. S. Army's Reserve Officers Training Corps (ROTC) were operating in 259 high schools. In that same year 63 National Defense Cadet Corps (NDCC) units functioned in 79 schools. The purpose of the last-named is to provide in secondary schools (public and private) military training of benefit to the student and of value to the Army. Instructors (approved by the Department of the Army), uniforms, classrooms, storage space, and other facilities are provided by the school. The Army furnishes the necessary equipment and the *texts for military training* used in this program.

The Savings Bonds Division of the Treasury Department offers schools (public and private) an educational program to help teach thrift and money management. Savings Stamp purchases by school children total between $19 and $20 million a year.

The Immigration and Naturalization Service of the Department of Justice cooperates with public schools in providing adult education for the foreign-born by sending them information about naturalization and citizenship textbooks.

### Some Conclusions

Although the foregoing partial summary chiefly reports school-related functions, it is apparent even from this sampling review that federal educational programs are not only very extensive but that their administration is scattered throughout the federal structure.

Yet, as noted in *Federal Educational Policies, Programs and Proposals*, the Federal Government has no comprehensive policy or organization for the administration of its educational activities. This study considers establishing such a policy, or at least the development of broader and more definitive policies in the education field, of fundamental importance. In a sense, this question, as its author reports, "encompasses all of the other educational issues before Congress."

Consideration of this problem in turn raises the question of the feasibility of consolidating or co-ordinating federal educational activities in a single federal agency and whether it would be desirable to give the central educational agency this responsibility.

If responsibility for such coordination is placed in the U. S. Office of Education, what changes in its position, status, and functions would be necessary? Should the supervision and co-ordination of these activities be centered in Washington or dispersed as is the case with field representatives of the U. S. Office of Education stationed in the nine regional offices of the Department of Health, Education, and Welfare? What methods of administering federal programs entail the least amount of federal control over education? ■

specify BOSTON®
PENCIL SHARPENERS

*buy quality for economy*

Engineered to meet today's high standards for schools...Rugged and durable...These Boston Sharpeners will give you more service for less maintenance than ever before.

*Write for information and prices to Dept. F*

C. HOWARD HUNT PEN CO., CAMDEN 1, NEW JERSEY

The KEYSTONE Standard Overhead Projector
*is available for purchase under the*

**National Defense Education Act**

**The Keystone Standard Overhead Projector** is designed for the projection of Transparencies, Standard (3¼" x 4") Lantern Slides, Polaroid Slides, and Handmade Lantern Slides or, with appropriate accessories Tachistoslides (4" x 7"), 2" or 2¼" Slides, Strip Film, and Microscopic Slides.

It is useful—

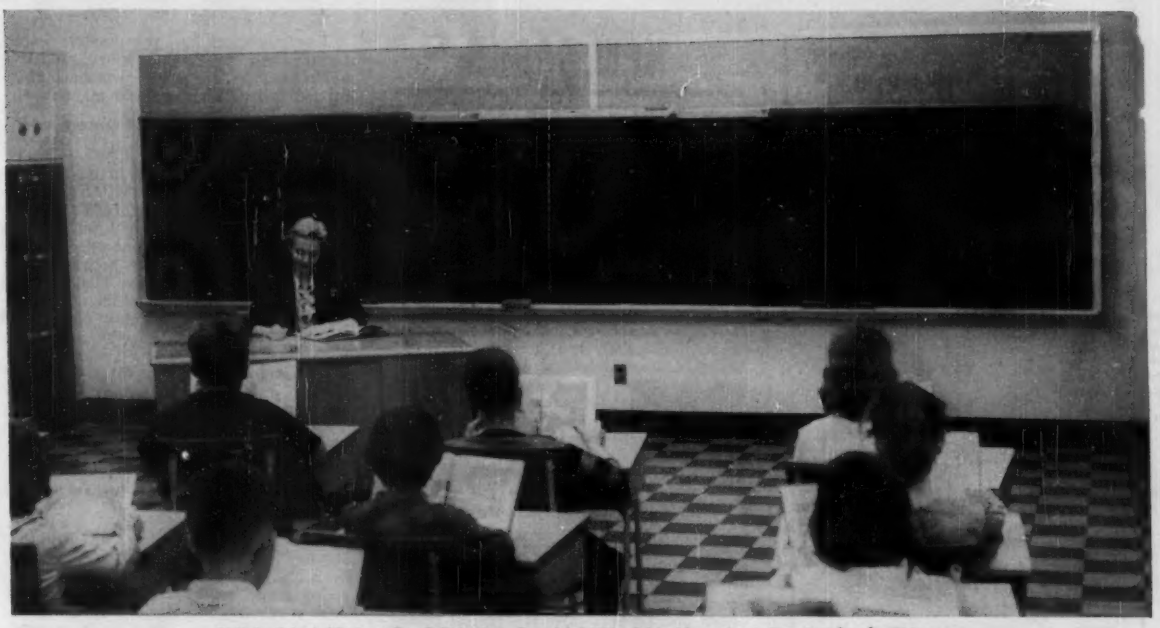
**In the Science Category** with appropriate units of slides in Physics, Biology, General Science, Health, Physiography, and Elementary Science.

**In the Mathematics Category** in teaching Number-Combinations and Fraction-Combinations tachistoscopically; Solid Geometry with Stereograms.

**In the Modern Languages Category** in teaching French, Spanish, German and Russian with Tachistoscopic Units.

Write for Further Information or a Demonstration by our Local Representative. KEYSTONE VIEW CO., Meadville, Pa.

*Since 1892, Producers of Superior Visual Aids.*



McKinley School, Allentown, Pa. Built in 1886. Remodeled 1951. Original Pennsylvania Slate Chalkboards still in use.

# Pennsylvania Slate . . . less expensive . . .

*because it is practically everlasting!*

Pennsylvania Slate is a true slate. It is slate clear through! That's why it shrugs off the decades and remains smooth and unfaded, year after year after year. Many Pennsylvania Slate chalkboards now in service in new and remodeled schools were originally installed in older buildings, 25, 50 even 75 years ago.

The lasting dark color of Pennsylvania Slate is kind to young eyes. It retains its high contrast; chalk marks stand out clear and sharp, preventing eye strain.

Write for a copy of SLATE vs. "SLATE", a compendium of comparative physical and chemical tests on true Pennsylvania Slate and imported "slate," conducted at an Experiment Station of a leading Eastern University.

**True Slate (Pennsylvania)*

**Limestone with Slaty Cleavage (Imported)*

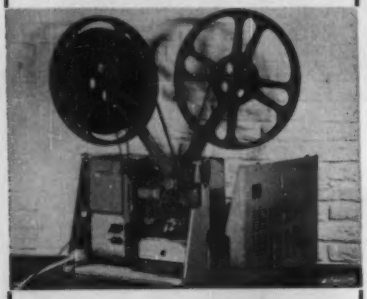
**The two photos at right show the results of a comparative aging test, one of the many conducted at the Mineral Industries Experiment Station, Pennsylvania State University.*

NATURAL SLATE BLACKBOARD CO.
THE STRUCTURAL SLATE CO.
Pen Argyl, Pennsylvania

*true slate . . . 500 million years in the making*

# QUIETEST

**running 16mm sound projector ever built**



KALART VICTOR

**FREE**—Treasure Chest of Audio-Visual Ideas. Illustrated booklet tells how to use film most effectively. For your copy, circle item 934. Readers' Service Section, page 61.

**Victor Animatograph Corp.,**
Div. of Kalart
Plainville, Connecticut


# NEW BOOKS

### Rankings of the States, 1960

Paper, 43 pp., 75 cents. Research Division, National Education Association, Washington 6, D. C.

This report shows that Utah is first in the school years completed (12 years), and South Carolina 50th (7.6 years); the median is 9.3 years. Iowa has the lowest per cent of illiteracy (0.9 per cent), and Louisiana has the highest illiteracy (9.8 per cent); the median is 3.2 per cent; New York has the highest school-age population (3,614,000), and Alaska the lowest, 54,000. California is first in school enrollment (3,420,000), and highest in percentage (97.4 per cent). Strangely enough, Rhode Island with an enrollment percentage of 69.2 is at the bottom of the list.

### Schools of Tomorrow and Today

By Arthur D. Morse. Paper, 191 pp. New York State Education Department, Albany, N. Y.

This report, prepared at the suggestion of Governor Rockefeller, presents a picture of the kind of experimentation which promises to lift the level of American education and to help solve the critical problems of quantity and quality. The experiments reported deal with team teaching, gradeless schools, hidden talent, television use, experiments in excellence, breaking the rural barrier, the Harvard University program for teachers.

### Administrative Handbooks

By John Staehle. Paper, 50 pp. U. S. Office of Education Bulletin—1960 No. 13, Washington, D. C.

This study outlines the present characteristics and the recent changes in handbooks provided for school personnel. Helpful for boards revising local manuals.

### A Review of Studies of Economies in Schoolhouse Construction

By Leo D. Doherty and Artrelle Wheatley. Paper, 27 pp. May, 1960. State Education Department, Albany, N. Y.

This study provides in brief form a statement of the main economies achieved in the past few years by architects and boards of education in the planning and construction of school buildings. The report suggests more careful educational planning, multiple use of rooms, reduction of perimeter walls, lower ceiling heights, elimination of waste space, the avoidance of stock plans, economical site procurement and development, prefabrication, modular design, and attention to maintenance, better financing, and timing. Includes comprehensive bibliography.

### Administration of the School Building Program

By Wallace H. Strevell and Arvid J. Burke. Cloth, 443 pp., $7.50. McGraw-Hill Book Co., Inc., New York 36, N. Y.

This basic work provides in textbook form a rather complete statement of the problems and recent practices in planning and carrying into effect the entire task of determining the need for and providing school plants. Properly the work begins with the administrative perspective on school facilities needs to the final tasks of staffing the completed buildings and setting up the permanent property records. The approach throughout the work is direct and in spots surprisingly simple; the language reflects complete grasp of the practicabilities of the topics and of the reader's need for applying the information in responsible professional tasks. Section two, which includes eight chapters devoted to recommendations for studying a local school district situation and for putting down the needs in the form of definite educational specifications for building projects, is an especially effective part of the book. The final section, on project administration, reflects the junior author's deep understanding and practical experience in school finance. The several chapters include a number of extremely useful check lists, practical record forms, and some discussion problems. The book is reliable and middle-of-the-road in its point of view.

### General Facilities and Equipment: Science and Mathematics in Public High Schools in 1958.

By Osburn, Koelsche and Brown and Snader. Bulletin No. 6, 1960. Price, 30 cents. U. S. Government Printing Office, Washington 25, D. C.

This publication reports a survey of existing facilities for teaching science and mathematics in 1207 public high schools selected to provide a good co-operation of existing conditions. It reports: (1) types of rooms, (2) essential facilities and equipment, (3) adequacy of equipment, (4) teaching kits, (5) homemade equipment, (6) borrowed equipment, (7) methods of purchase, (8) available funds for buying equipment, (9) out-of-school sources for buying equipment. The study suggests strongly the need for better laboratories for teaching science and better methods of purchasing equipment. The study of mathematic facilities suggests needed improvement of classrooms, better if not necessarily more items of equipment, improved library facilities, and better methods of obtaining visual aids.

**FREE** TELKEE booklet answers that question for you; shows how TELKEE saves you time and money, gives you new convenience.

**STOPS** time wasted locating lost or borrowed keys

**MINIMIZES** expensive lock replacement and repairs

**ORGANIZES** all your keys in one orderly system

What's more, TELKEE guarantees maximum security and privacy—keeps keys in authorized hands, always.

Offices, factories, stores, schools, housing, hospitals . . . there's a TELKEE System to fit every size and type of application. TELKEE solves every key problem, efficiently, inexpensively.

**FREE—send today!**

TEL KEE

**The MOORE KEY CONTROL® System**

**P. O. Moore, Inc.,** Glen Riddle 54, Pa.
*Send FREE TELKEE booklet*

NAME_____

FIRM_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

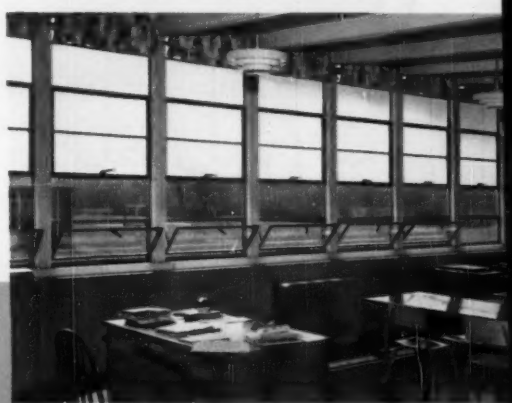
Impact and fire resistance are twin features of this Polished Misco wire glass installation in the Walt Disney Elementary School, Tullytown, Pa. Architect: John Carver, Philadelphia, Pa.

# *The New Look in...*

## SCHOOL DAYLIGHTING

The versatility of Mississippi glass provides the solution to virtually every daylighting problem, including light diffusion and direction, heat absorption, and safety with decoration. And translucent Mississippi glass reduces contrast that results in costly visual errors . . . keeps interiors more comfortable. Occupants see better, feel better, work better. Available at your quality glass distributor in a wide variety of patterns and surface finishes for every daylighting need.

1,050 sq. ft. of Luxlite Coolite, Glare Reduced, installed in southeast elevation of auditorium-cafeteria and classrooms of Stephen Blackhurst Elementary School, St. Charles, Mo. Architect: Bruce F. Barnes, Patterson Mo. General Contractor: Whitworth Engineering Company, St. Louis, Mo. Glazing Contractor: Comfort Distributing Company, St. Louis, Mo.



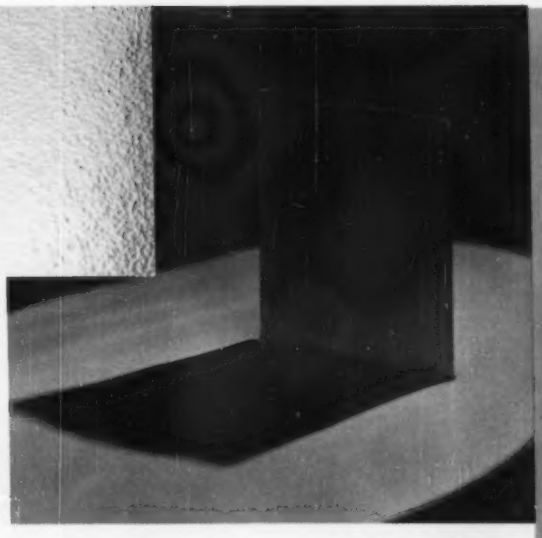
Maximum light distribution at low cost is achieved by ⅛" Pentecor glass, glazed in vertical sidewall sash in Clopton High School, Clarksville, Mo. Architect: Kenneth E. Wischmeyer, St. Louis, Mo. Glazing Contractor: Rainbow Glass Company.

**MISSISSIPPI GLASS COMPANY**

88 Angelica St. • St. Louis 7, Mo.

NEW YORK • CHICAGO • FULLERTON, CALIFORNIA

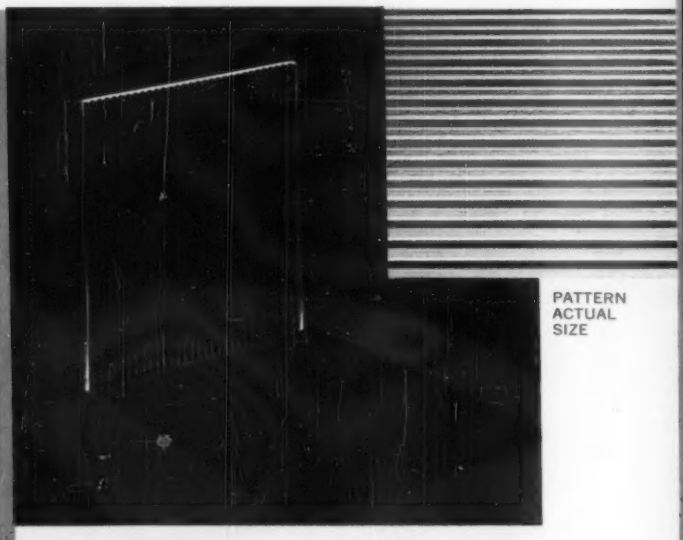
Figured glass promotes truly functional architecture adapted to present day needs . . . offers utility, beauty and variety unmatched by any other glazing medium. Specify Mississippi.



PATTERN ACTUAL SIZE

## COOLITE

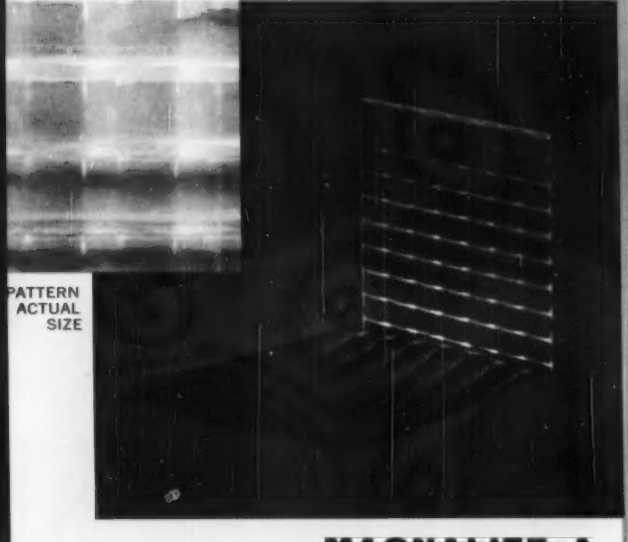
Available in 1/8", 1/4" plain and 1/4" wired, in Luxlite and Hammered patterns. May be glare reduced on either or both surfaces.



PATTERN ACTUAL SIZE

## PENTECOR

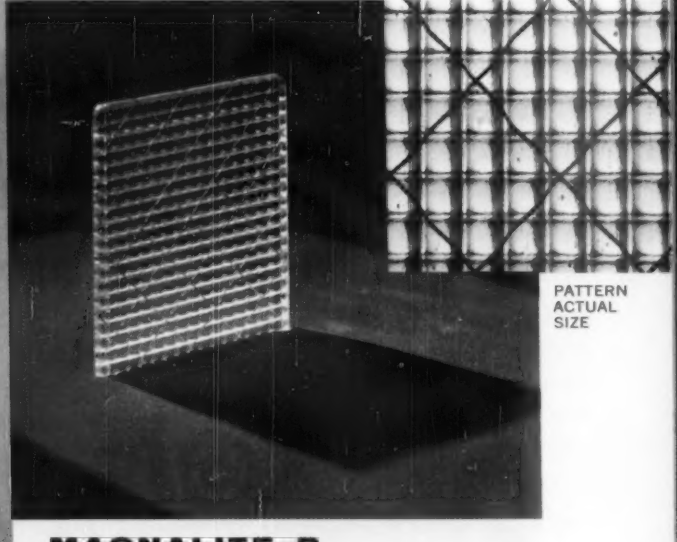
Available in thicknesses of 1/8" and 7/32". Very popular for lighting fixtures and luminaires. Untreated or glare reduced on one or both sides.



PATTERN ACTUAL SIZE

## MAGNALITE A

Furnished in thickness of 7/32" only. A highly diffusing and very brilliant patterned glass. No special surface treatment available.



PATTERN ACTUAL SIZE

## MAGNALITE B

Furnished in thickness of 7/32" plain and 1/4" Misco wire. Particularly effective for partitions at eye level. No special surface treatment available.

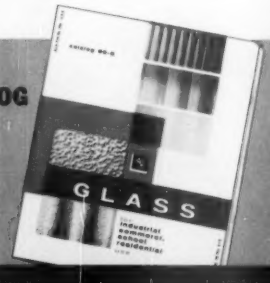
# MISSISSIPPI GLASS COMPANY

88 Angelica St. • St. Louis 7, Mo.

NEW YORK • CHICAGO • FULLERTON, CALIFORNIA

**NEW CATALOG**

Contains pattern descriptions, light distribution charts, transmission data. Send for your free copy today.



## EVANSTON HIGH SCHOOL

(Concluded from page 28)

lunchroom and manual training shop purposes, pending erection of permanent quarters.

In those days there were six study halls, each with accommodations for 250 pupils. There was a study hall for each five classrooms, and each of these groups was under the guidance of a group supervisor, whose office adjoined the study hall.

Linked to Evanston's physical growth are the changes which occurred in the school's personality. These changes were influenced by the four men who have led the township's high school throughout its 76-year history.

**Scholarship, Variety, Personality**

Henry L. Boltwood, who founded Evanston Township High School in 1883 and was superintendent-principal to 1906, and Wilfred Fitch Beardsley, principal from 1906 to 1928, gave the school its scholarly standing. From 1928 to 1948, Francis L. Bacon, as principal, widened the basis for success. During his administration, there was a diversity of activities giving more students the opportunity to become leaders.

Since 1948, Dr. Lloyd S. Michael has been serving as superintendent-principal of the school. Without losing scholarly standing and the possibility of differing successes for students, he has made the school a personal place. Within a few days after school starts, he calls each teacher and many students by name.

This briefly is the story behind Evanston Township High School's many lives. The completed structure is evidence of the manifold rewards of the sound judgment and vision of the school's early leaders. Indeed, the planning paid off. Quality products went into the construction of the plant, which is probably the least expensive in the Chicago area for that very reason. Throughout the growth of the building nothing has had to be redone. The only change was in the original building's corridors, where ceilings were lowered and new lights were installed.

With this fine record of growth, Evanston is well set for the future. Enrollment is expected to remain at the 3500 mark for the next few years, and top 4000 by 1965. Facilities are adequate, but there is land available should further expansion be necessary. In the meantime, existing classrooms, shops and office areas can easily be adapted to fit changing requirements resulting from new concepts of teaching and of school administration. ■


# TOP-AWARD WINNING SCHOOL

*John Ireland Elementary School · Odessa, Texas*

ARCHITECTS: Peters & Fields, AIA
Odessa, Tex.

GENERAL CONTRACTOR
W. R. Grimshaw Co.
Odessa, Tex.

MECHANICAL CONTRACTOR
R. W. Gray Plumb'g Co.
Odessa, Tex.

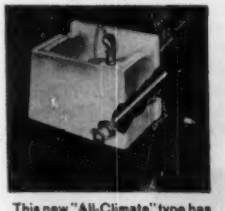
MECHANICAL ENGINEER
Zumwalt & Vinther
Lubbock, Tex.

## ..selects Halsey Taylor fixtures

In the Ninth Annual Competition for Better School Design, conducted by OVERVIEW, a national educational publication, this Texas Elementary School was selected as one of the top award winners. The jury commented: "Appropriate architectural forms, facilities well located and organized."

Of course, Halsey Taylor water coolers and freeze-proof outdoor fixtures were specified. The Halsey Taylor line, embracing low-level, free-standing and the new Wall-Tite and Wall-Mount coolers, as well as cafeteria types and fountains, gives the architect or builder a wide choice.

*The Halsey W. Taylor Co., Warren, Ohio*



This new "All-Climate" type has special all-weather features and proves superior for freeze-proof installations outdoors.

Halsey Taylor coolers are designed to meet the highest hygienic standards and are ideally suited to installations in public buildings. The new Wall-Tite and Wall-Mount series provides the added feature of tight-to-the-wall fit with no exposed fittings and ease of maintenance.

Halsey Taylor®

**ASK FOR LATEST CATALOG, OR SEE SWEET'S OR THE YELLOW PAGES**

*re-tubing bills? not this summer*
*. . thanks to*

**ACME CHEMICAL**

Pete's purring — and bursting with the news that this summer, for the first time in 8 years, we didn't need to replace a single boiler tube.

That happened only once before — the first season we operated the boiler. Other years, our summer inspection always showed 3 or 4 tubes so pitted they had to come out.

**Salute to Rustoscale®** — and hats off to our Acme Man. It was he who got us started last October on Rustoscale. We never believed our low-pressure heating boiler needed water treatment but their Laboratory analysis of our supply and boiler water showed otherwise. By the time real cold weather came, Pete noticed he was gettting quicker heat — building was cozy those bitter mornings. And now the best news of all — no bills this summer for new tubes!

F. Maintenance of School Plant,cont'd

3. HEATING SYSTEM

| | 1957-1958 | 1958-1959 | 1959-1960 | |
|---|---|---|---|---|
| | Spent | Spent | Budget | Spent |
| Steam line repairs | 589.56 | 516.13 | 550.00 | 649.34 |
| Turbining flues | 904.78 | 521.81 | 585.00 | 519.66 |
| Replace boiler tubes | 451.42 | 626.18 | 650.00 | ------ |

Besides lower repair bills, there are other benefits of treating your boiler water with Rustoscale, one of 80 fine products made by the Acme Chemical Company.

ACME Chemical Company
FOR OVER SIXTY YEARS QUALITY ABOVE ALL
Milwaukee 45, Wisconsin

*Maintenance materials for the School Building . . .*
*serviced to your satisfaction*


## EDITORIAL

(Concluded from page 38)

intendent, commands it by the strength of leadership he manifests.

The legislative duties of the board require joint action. This is all to the good since possible solutions to school problems will be greatly aided by the varied thought of the board. In this manner, all elements of the community are represented. But this collective action of the board should not negate the leadership of each member of the board.

In the determination of goals and the learning activities essential to the attainment of these goals, each member of the board must maintain his capacity for leadership. Only in this way can diverse philosophies and psychologies be thoroughly investigated for possible use in the school system. Finally, of course, the board votes its approval or disapproval of a given matter, and each member is then bound by the decision of the majority.

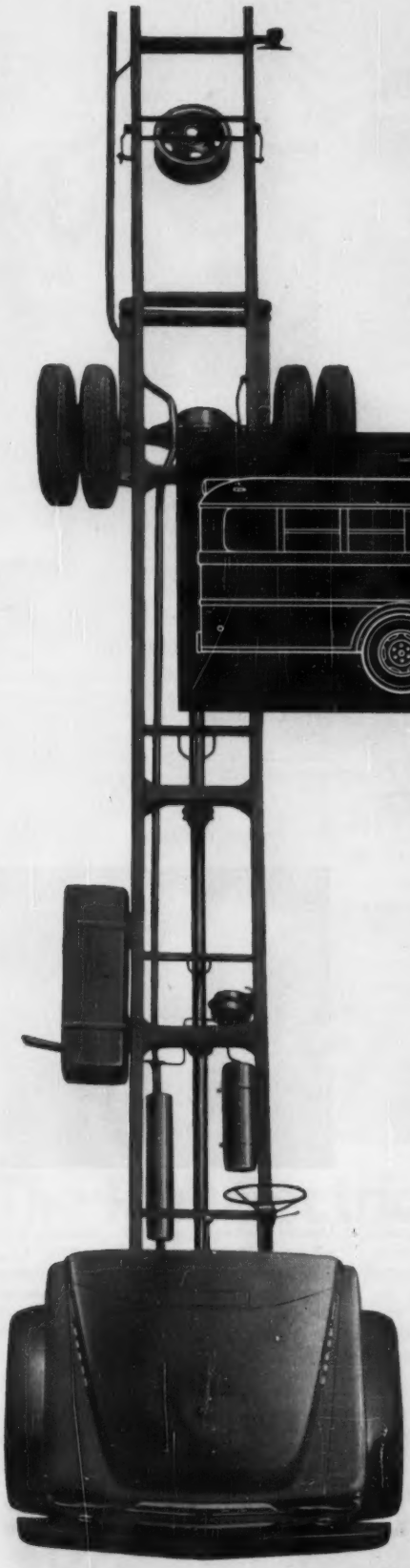
However, the conclusion of the board is better for each member expressing his own view rather than merely acquiescing in the opinion of another. Once a decision has been reached by the board, it then becomes the duty of all members to join in collective leadership. Each member implements the board's policy as much as possible; i.e., the final consideration with regard to planning, organizing, directing, coordinating, and controlling. Thus, by discharging the leadership function in a dual role, i.e., as an individual shaping policy and then, as the board, the authority of the board is vastly enhanced.

*In conclusion* — Webster's dictionary states that the person who leads is the one who directs the action, thought, and opinion. Yet the idea of leadership has not been stressed in educational thought to a degree that has kept it abreast of latest research concerning theory. While we may speculate about the nature of authority, channels of communication, the process of decision-making, etc., none of these features becomes alive and vital unless the person or persons involved show the quality of leadership. This is particularly true of school boards and superintendents. Theirs is the duty to accept the advice and council of groups, committees, etc., but in the final analysis, the authority they possess must be utilized by them alone — it cannot be transferred without loss of prestige and effectiveness. This process and this process, alone, is deserving of the designation — leadership. ■

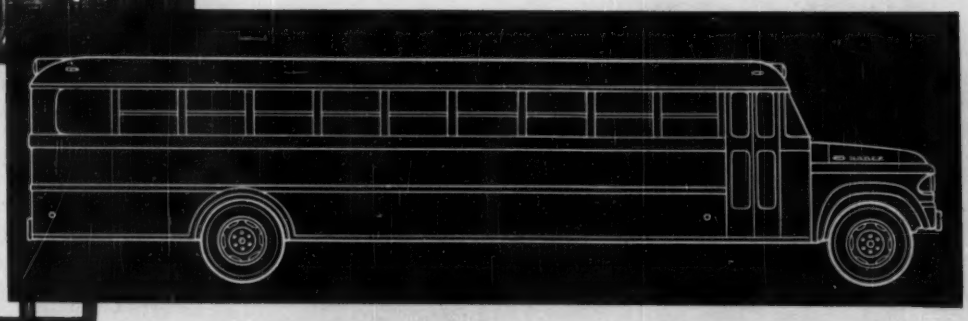
**John F. Travers, Ph.D.**
**Boston College**
**Chestnut Hill, Mass.**



(For more information from advertisers, use the postcard on page 61)



# DEPEND ON DODGE FOR SAFETY AND SAVINGS!



*A Dodge school bus chassis* is the soundest foundation upon which you can build dependable school transportation.

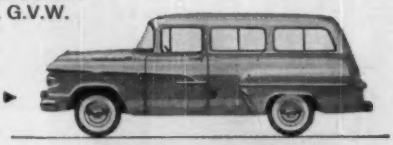
Sound in safety, even in excess of NEA standards, with extra-big brakes; gear-before-axle steering; a driver-adjustable emergency brake system.

Sound in economy, with a choice of thrifty L-head Six or Power Giant V-8 engines for peak performance on regular gas; long-lived Dodge quality construction; low initial cost.

Your Dodge dealer will be pleased to point out many more reasons why a Dodge school bus chassis is the soundest investment you can make in dependable, safe, economical school transportation. Why not give him a call today?

◀ **Dodge School Bus Chassis** are built for bodies that accommodate 30 to 66 pupils. Choice of five wheelbases; 15,000 to 22,000 lbs. G.V.W.

**Dodge Town Wagon** is ideal for small routes or "feeder" use. Easily carries eight pupils, can be converted to haul athletic equipment or other materials. ▶



DEPEND ON **DODGE** TO SAVE YOU MONEY IN **TRUCKS**

A PRODUCT OF CHRYSLER CORPORATION

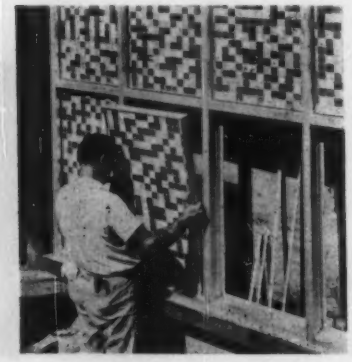


(For more information from advertisers, use the postcard on page 61)

# NEWS of PRODUCTS for the Schools

## CERAMIC TILE PANELS

Ceramic tile spandrel panels, designed in structure, pattern, scale and color to provide warmth in texture and a freshness in contrast, were used in an East Orange (N. J.) high school. The random color pattern provides a relief from standardized grids. The panels are manufactured by the Maul Macotta Corp., and are composed of 1 9/16 in. ceramic mosaics, made by The Mosaic Tile Co., Zanesville, Ohio. The Medley pattern is factory-applied to both sides with adhesive on ⅛ in. asbestos cementboards with a Styrofoam insulating core. Each panel is pre-assembled on a handcraft pattern, and perimeter bound by an anodized, extruded aluminum moulding. Send for further information.



With Aluminum Molding

**(For Further Details Circile Index Code 0137)**

## DESK FOR ALL GRADES

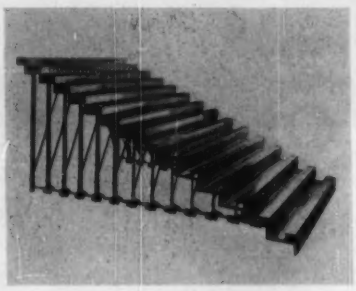
The new 212 Series student desk by American Desk Mfg. Co., Temple, Tex., comes in two sizes and is suitable for all twelve grades. Offered in eight heights from 22 through 29 in., and in five colors, the desk features 18 gauge steel panels and sturdy leg structure. A companion piece is the 45 Series Cluster chair, available in eight sizes from 11 through 18 in. The chair has 16 gauge tubular steel legs and a seat and back of five-ply birch or maple veneer. Other new products of the firm include two teacher's desks, and rectangular and kidney-shaped tables. Send for new catalog of the complete line.

Same Style in Many Sizes

**(For Further Details Circile Index Code 0138)**

## OPEN-DECK GYM SEATS

The Hussey Mfg. Co., Inc., North Berwick, Maine, announces a low-cost, open-deck type of roll-out gym seats. Constructed of Arkansas pine with steel framework, the seats telescope rather than fold. The vertical front, typical of telescopic seats, is safer than a slanting front, and occupies less floor space when closed. A standard section is 16 ft. long, from three to 15 rows high, with 22 to 24 in. between rows. The sections, which roll on 4 in. plastic wheels, are keyed alike for complete control. Any desired number of rows may be extended and locked in place. Send for a bulletin from the manufacturer.



Telescopic Bleachers

**(For Further Details Circile Index Code 0139)**

## DURABLE CHALKBOARD

The Endur Products Co., Visalia, Calif., announces a new chalkboard with a carbon silicate surface that will last about 15 years under normal conditions and may be water washed. Chalkboards come ¼ or ½ in. thick, in heights of one to four feet, and widths from two to 16 ft. Eight non-glare colors are offered: light and dark green, gold, tan, black, gray, blue-gray, and maroon. One-piece construction features heavy anodized aluminum frames and chalktrays. Masonite hardboard is used as a base for the surface to give the chalkboards strength and durability. They can be easily mounted on masonry, plaster or wood walls.

**(For Further Details Circile Index Code 0140)**

## PORTABLE LANGUAGE LAB

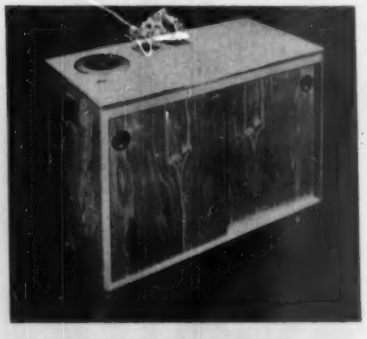
A portable language laboratory, designed for schools with confined space and limited budgets, is available from the Rheem Califone Corp., Hollywood 38, Calif. It consists of a master tape recorder, Model 75-TA, with 10 output jacks for Solitaire tape recorders, Model 72-T. The Solitaire is a dual-channel tape recorder mounted in a booth-type carrying case with polyurethane sound proofing, allowing privacy even in close quarters.

Fits in Close Quarters

**(For Further Details Circile Index Code 0141)**

## PORTABLE KITCHEN UNIT

The "Porta-Kitchen" is a movable unit that will serve as a demonstration center for homemaking classes in elementary grades and junior high school, or as a coffee bar for teachers' lounge. Mounted on heavy-duty casters, the unit features a built-in three-heat, 110 v. burner unit and a Nu-Tone power unit which operates such optional attachments as mixing unit, blender, juicer, sharpener, grinder, and shredder. Made by Educators Mfg. Co., Tacoma 1, Wash., the No. 759 kitchen plugs into a three-prong convenience outlet and has a 15 ft. extension cord. Cabinet has a natural birch finish with colorful overhead doors. It features adjustable shelf-storage, tote tray storage, removable cutting board, and metal-covered asbestos pad.



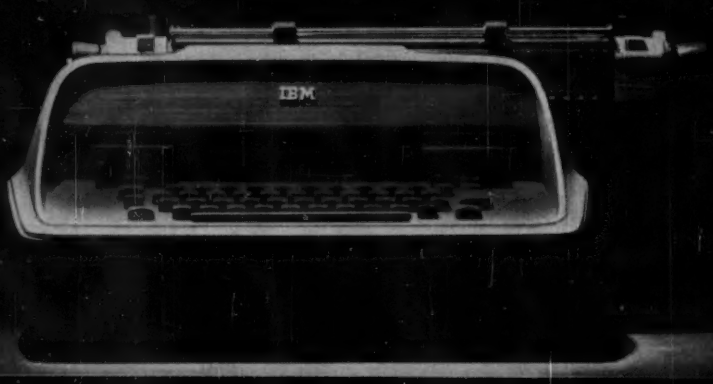
With Electrical Outlets

**(For Further Details Circile Index Code 0142)**

**CORRESPONDING CODE INDEX NUMBERS TO BE ENCIRCLED CAN BE FOUND ON THE CARDS IN THE READER'S SERVICE SECTION**



*(For more information from advertisers, use the postcard on page 61)*




# The IBM Electric: Its beauty is just a bonus

The first thing you notice about the new IBM Electric is its good looks. But there's more. For here is beauty combined with precise function, the result of the most thorough approach to typewriter development ever devised.

It is one of the most perfectly engineered quality products in the world. Every part is made a little stronger, a little better than it has to be. As a result, you can expect less "down time," teacher's schedules can be maintained, and students need not feel the demoralizing effect of wasted classroom time.

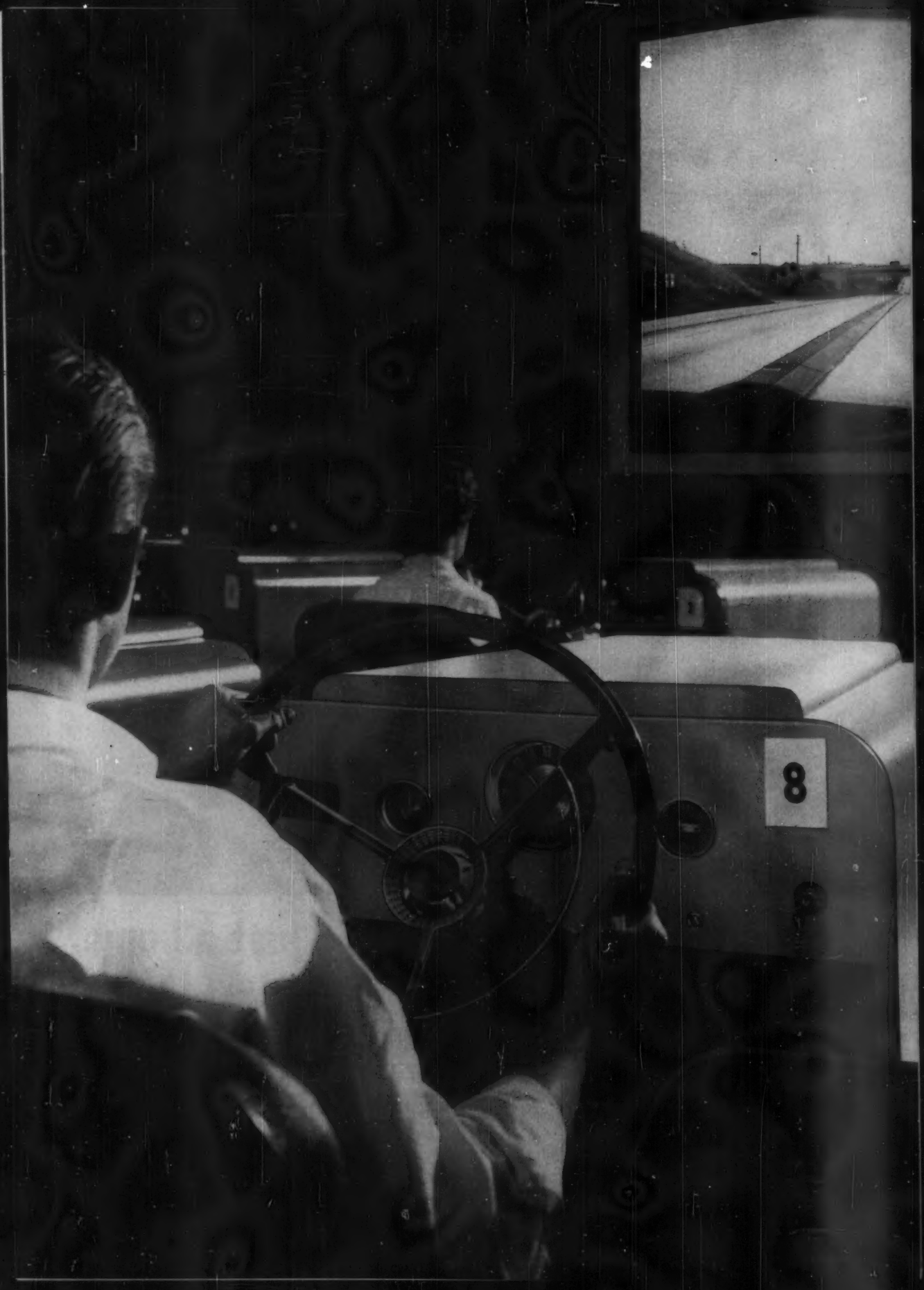
**Simplest keyboard.** The many exclusive features on the IBM Electric can help students raise their standards of performance. For example, a whole new principle, the "Buoyant Keyboard," enables the student to adjust key pressure to his individual "touch," thereby reducing finger fatigue and helping him develop increased confidence and skill. The keyboard itself is the essence of simplicity and no unnecessary gadgets intrude on the student's finger action, making both teaching and learning easier.

**Educational Aids.** In our desire to further share the responsibility for the success of each typing installation, IBM offers lesson plans, movies, bulletin board materials, and other educational aids, and a staff of consultants and business educators is available to provide assistance when desired.

If you would like to know more about this superb typewriter, our local representative would be pleased to show it to you at your school.

IBM

ELECTRIC TYPEWRITER DIVISION


8

# Saves Teachers, Saves Time, Saves Lives

## Drivotrainer program dedicated to better driver education in schools

Rockwell Manufacturing Company now extends its service to schools by manufacturing and distributing the Aetna Drivotrainer, the classroom driver training aid developed as a public service by the Aetna Casualty and Surety Company. In developing the Drivotrainer, Aetna called upon nationally known educators for assistance and counsel. Working closely with this panel of experts, Aetna invested considerable time, effort and funds in perfecting the Drivotrainer system of driver education. Now, its classroom effectiveness fully documented by responsible educators, the Drivotrainer is in use in schools from coast to coast.

In producing the Drivotrainer, Rockwell draws upon the same sound engineering and manufacturing skills that have won for Delta Power Tools a place in 72% of U.S. school shops, and that have made Rockwell measurement and control instruments the standards of quality in their fields.

The Drivotrainer permits students to "drive" through all kinds of situations without ever leaving the classroom—and without risk to life or property. Its three chief advantages to schools are:

**Better educational values,** because Drivotrainer teaches basic driving skills, develops safe driving attitudes and better driving judgment through exposing the student to more traffic situations than he could experience in a similar period of on-the-road training.

**Lower per-pupil costs,** because Drivotrainer multiplies the number of students that can be taught, *without* increasing the teaching staff, and greatly reduces the number of hours needed for dual control on-the-road instruction.

**Higher level of student proficiency,** because Drivotrainer drills students to react instantaneously and *correctly* to emergencies —the real test of driving ability.

It is a source of satisfaction to manufacture a product whose ultimate use can only result in safer living for everyone. For further information on the Drivotrainer, write: Rockwell Manufacturing Co., Drivotrainer Division, Dept. 401J, Pittsburgh 8, Pa.

**BE SURE TO REGISTER AND VOTE!**

◄

Drivotrainer systems similar to the one shown here are in use in schools throughout the country to instruct teen-agers in safe driving. The U.S. Air Force employs the Drivotrainer in the retraining of experienced drivers.

DRIVOTRAINER
another fine product by
ROCKWELL

Schooline®
WARDROBE SYSTEMS
Fixed columns
adjustable shelves
Adjustable Height
WALLMOUNTS

Solve the pupil wraps problem efficiently with Wallmount Coat and Hat Racks. Mount on any available wall space. Hat shelves and hanger bar adjustable on permanently attached columns to height for any age group. Double hat shelves and double row of spaced coat hooks accommodate 6 pupils per running foot. Basic 3' 2" or 4' 2" units interlock to make continuous racks to fit any space or capacity requirements.

Same as above . . . mounted on floor stand with Chalk Board of Cork Board and off-the-floor rack for overshoes. Each unit 4'2" in length.

Chalkrobe—combination wardrobe racks and chalkboard

Nos. B-3 & B-4 Wallmount Overshoe rack . . . 3'2" & 4'2" length on interlock.

Corkrobe—combination wardrobe rack and corkboard

CUSTOM-LINE
Aluminum
Coat and Hat Racks

Tailored to fit any given open or closeted wall area. Smart in design and modern in "clear", "gold" deep etched anodized finishes and combinations. Quality built—closed-end aluminum tubing, rigidly, held in cast aluminum brackets that are adjustable for height in dovetailed mounting extrusions. Brackets also adjustable to any desired centers.

Detail shows how dove-tail extrusions (which mount on any centers) hold brackets at any desired height.

Veep
Quick Folding
PORTABLE
Coat and Hat Racks

Holds 72 coats and hats

Wheels as readily as a small service cart. The Veep rack unfolds into a rigid 6' 6" long unit holding 72 coats and hats. Scientifically counter-balanced so that it can be set up literally in seconds and fold down for storage as easily as an umbrella. Built of square tubular steel with double hat shelves of closed-end aluminum tubes supported by cast aluminum brackets. Plated to assure permanent beauty. Quality in engineering, construction and finish. The most efficient equipment yet developed for dining and meeting rooms, stand-by equipment, etc. . . . for wherever the "load" varies.

Sets up with a sweep of the arms . . . in 2 or 3 seconds. .

Wheels through ordinary doorways. 4' x 8' area stores racks for 720 people.

Write for Complete Catalog #206

VOGEL-PETERSON CO.
Rt. 83 & Madison St. • Elmhurst, Ill.


## News of Products . . .

(Continued from page 52)

### TEACHING MACHINE

A new electronic teaching machine which scores correct answers to multiple-choice questions has been developed by Dr. Edgar A. Smith, an educator and director of development for Smith-Harrison, Inc., Devon, Pa. The Model 50 machine utilized 24 switches made by Switchcraft, Inc., Chicago 30, Ill. Problems are presented in a workbook that rests between two rows of buttons on the top of the machine. The student indicates his choice by pressing the botton adjacent to his answer. Available program material covers reading comprehension, mathematics, geography, and biology workbooks. The devices combine pictorial interest with individual tutoring, and appeal to the student's natural fascination for gadgets, states Dr. Smith.

For Multiple Choice

**(For Further Details Circile Index Code 0143)**

### CLASSROOM FURNITURE LINE

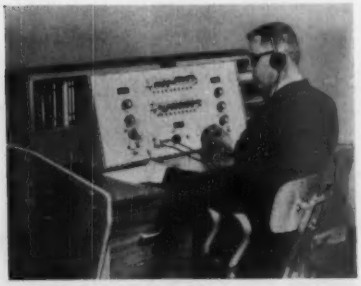
A new line of school desks and chairs featuring Centripoise seat frame structure has been introduced by Arlington Seating Co., Arlington Heights, Ill. Tubular members are joined in a single, formed, heavy gauge steel center plate below the seat. This new Studybilt line offers 12 design models in a range of sizes. Included are chairs, lift-lid and open book box desks, chair desks, study desks, tablet arm chairs, and upholstered chairs. The line features Arlex all plastic seats and backs, as well as hardwood plywood. Desktops are of high density plastic in a maple grain finish. Lift lid desks in new metal clad plastic with an all metal base are also available. Send for Bulletin 900 for complete details.

Reinforced Steel Seat

**(For Further Details Circile Index Code 0144)**

### LANGUAGE LABORATORY

The Edwards Co., Inc., Educational Equipment Division, Norwalk, Conn., has introduced a new language laboratory system including teacher's control console and student booths. A feature of the teacher's unit is control knobs for each master lesson channel color-keyed to match the tape units they control. The system produces flexible multi-channel programming, and dual-track tape recording and playback equipment which eliminates the need for mass duplication and bulk erasing accessories. From the master console, up to four separate lessons can be broadcast to any desired combination of student booths. The instructor's desk-style console houses lesson channel controls, student selector switches, amplifiers and tape playbacks in one unit. Two types of student booths are wired for "listen-respond" or "passive" participation.



Color-Keyed Panel Board

**(For Further Details Circile Index Code 0145)**

### BASKETBALL STANDARD

A new portable official basketball standard has been developed by the Jayfro Athletic Supply Co., New London, Conn. The standard, which comes with an official fan-shaped Fiberglas backboard, is offered in four models. Single units have one goal and net; double-center standards can be used from both sides. Both units feature steel-chain nets and a heavy-duty aluminum frame either permanent or adjustable in height. The portable base, which weighs 182 lb., is made of cast iron, rubber-mounted to protect gymnasium floors. Units can be used indoors or outdoors.

**(For Further Details Circile Index Code 0146)**

(Concluded on page 58)

**CORRESPONDING CODE INDEX NUMBERS TO BE ENCIRCLED CAN BE FOUND ON THE CARDS IN THE READER'S SERVICE SECTION**

CHAMPION TROPHY® GYM FINISH

# CONVERTS 1 FLOOR INTO 5 FLOORS

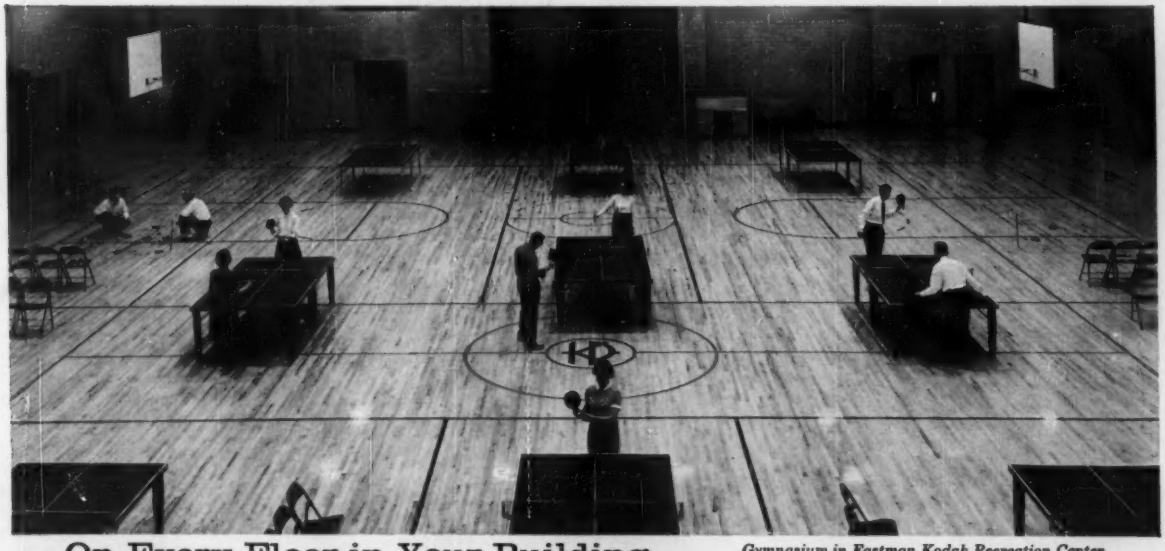
The basketball floor with its mirror-like beauty, once jealously guarded and restricted in use, now can be put into full time use. How? Choose TROPHY! You get a 5-fold return on your investment in your Gym, when you take the one step of choosing TROPHY Gym Floor Finish. The toughness (highest abrasion resistance) and no-glare, non-slip beauty of this fine finish mean extra protection that enables you to use the floor for:

1. **Basketball games and tournaments, (ideal for televising)**
2. **Physical education classes**
3. **Ballroom or square dances**
4. **Spectator seating during banquets, plays, musicals, programs, lectures, etc.**
5. **Popular indoor sports, such as Volley Ball, Shuffleboard, Table Tennis, etc. – Your Gym can become a Recreation and Community Center.**

"classified as to slip resistance"

Approved by MFMA

Where ordinary finishes yellow, crack, break, check, scratch and peel and where seals offer little surface protection, Trophy holds on for "dear life" and affords a non-yellowing, tough, flexible film that defies scratching or breaking. You'll find more life in your Trophy floor when you work it to death!



On Every Floor in Your Building

*Gymnasium in Eastman Kodak Recreation Center Rochester, New York*

## You're a Step Ahead with

# HILLYARD

Let the Hillyard "Maintaineer®" show you why the Finest Gym Finish is also the Most Economical.

*"On Your Staff, Not Your Payroll"*

H I L L Y A R D

Passaic, N. J. ST. JOSEPH, MO. San Jose, Calif.

*Branches and Warehouse Stocks in Principal Cities*

HILLYARD St. Joseph, Mo. Dept. E-1

Please have the Hillyard Maintaineer show me how I will save money with the finest finish of all.

NAME.....

INSTITUTION.....

ADDRESS.....

CITY..... STATE.....



(For more information from advertisers, use the postcard on page 61)

Unexcelled Colors in a Practical Shape!
PRANG OVL-8 Water colors
Only Prang has the Ovl-8 box that was researched and developed to give you the utmost versatility, convenience and impressive economy in one single unit!
Crisp . . . Sparkling . . . Brilliant . . . Prang Colors are perfect for capturing the imagination and creative charm of today's youth.
See the variety of sets and assortments for all ages at your favorite school distributor.
Write for free folder of Water Color Ideas. Dept. A J-59
THE AMERICAN CRAYON COMPANY
SANDUSKY OHIO/NEW YORK


## News of Products . . .

(Continued from page 56)

### MODEL VOTING MACHINE

An instruction model of a voting machine teaches students how to cast a ballot. Made by the Automatic Machine division of the Rockwell Mfg. Co., Jamestown, N. Y., the

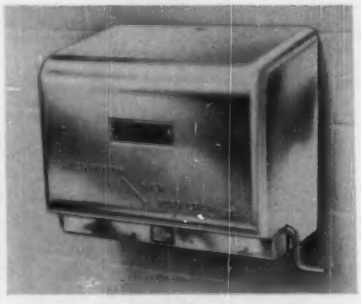
For Class Instruction

model is the same as that required at polling places for the instruction of voters in many states. Priced at $22, the model measures 13 in. by 10 in., weighs 7 lb., and has a folding bracket for support when in use.

**(For Further Details Circle Index Code 0147)**

### TOWEL DISPENSER CABINET

A polished aluminum towel dispenser cabinet, tested for two years by a school, eliminates rust and wearing away of paint, and retains its sleek appearance with a minimum of maintenance, according to the



Should Not Rust

Bay West Paper Co., Green Bay, Wis. Directions for use are permanently embossed on the front of the cabinet. The cabinet leased free to users of Mosinee Turn-Towls only.

**(For Further Details Circle Index Code 0148)**

### FOOTSPRAYER FOR ATHLETES

Onox, Inc., San Francisco 5, Calif., offers a new footsprayer which dispenses its skin-toughening solution for the prevention of athlete's foot. When the user steps on the treadles, four jets spray the feet and toes thoroughly. Made of Fiberglas and polyethylene with a nonskid rubber base, the footsprayer is sanitary, easy to clean and service. It holds a gallon of Onox, enough for more than 3000 treatments. The manufacturer states that Onox, a concentrated solution of five mineral salts, prevents fungus growth and has a drying action which keeps the feet tough and healthy. The footsprayer is offered on a 60-day trial basis. Send for details.

**(For Further Details Circle Index Code 0149)**

**CORRESPONDING CODE INDEX NUMBERS TO BE ENCIRCLED CAN BE FOUND ON THE CARDS IN THE READER'S SERVICE SECTION**

COMMUNITY OBLIGATION

THE SPIRIT OF

L. B. I.

Many librarians and purchasing agents think of Library Binding Institute as an organization of Library Binders interested only in furthering their own purposes. It is true that any trade association must consider this as part of their program.

However, we are quite proud of Library Binding Institute's accomplishments in supporting the library profession with such projects as —

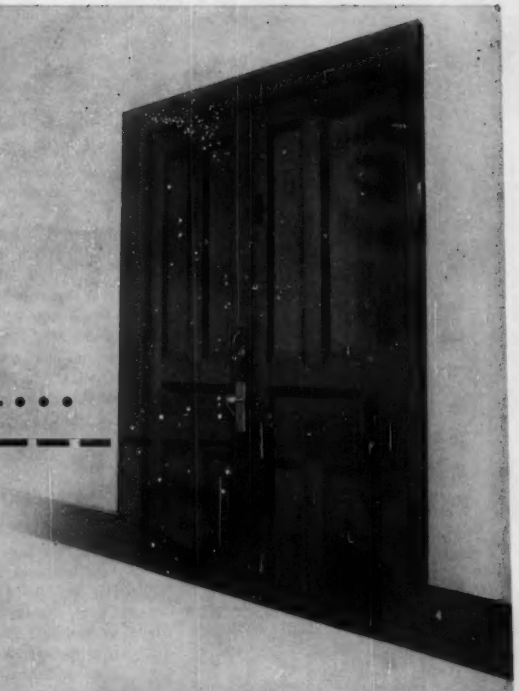
1. Scholarships to worthy students studying librarianship.
2. Posters to help attract readers to libraries and for fund raising.
3. Educational Films describing the Library Binding Process.
4. Educational Literatures to help conserve your budget.

*Library Binding Institute Literature is free.*

*Send for it today. Every librarian should read it.*

LIBRARY BINDING INSTITUTE

10 State Street, Boston 9, Massachusetts



# The question before the board...

## *How do you feel about soft drinks in schools?*

The subject may come before your Board. When it does, talk it over with your local bottler. He's a tax-paying local businessman, dealing in products which contribute to the local economy in the same way as other food products available on school premises.

He's entitled to a fair hearing. Happily, such a hearing has been forthcoming in most areas. Here are the facts:

**1. DIETARY VALUE:** Soft drinks are accepted in dietetic planning as an "accessory food." Like relishes, they accent the diet healthfully. Thus they add flavor and variety to menus that otherwise may seem routine.

Soft drinks provide 100 calories of food energy per 8 ounces in easily assimilable form—a helpfull contribution during the school day to pupil alertness and interest.

**2. WHOLESOMENESS:** As you know, the body loses 2½ quarts of fluid each day. Soft drinks help restore body fluid balance. Carbonation adds zest and palatability. In addition, soft drinks aid digestion and stimulate appetite. Because they are liquid, soft drinks pass quickly through the mouth, with virtually no involvement in oral conditions related to dental problems. Recent dental research reaffirms this thinking.

**3. SOCIAL VALUES:** Availability of soft drinks within school limits encourages youngsters to stay on school property. Soft drinks can be an important aid in fostering desirable behavior patterns. Social activity is more readily supervised and promoted.

These are some of the reasons, we believe, why soft drinks have a desirable place in the food and refreshment facilities of our school system. If you would like more complete and thoroughly-documented literature on the food, health and social values of bottled soft drinks, we will be happy to send them to you.

**AMERICAN BOTTLERS OF CARBONATED BEVERAGES**

WASHINGTON 6, D. C. • *NATIONAL ASSOCIATION OF THE BOTTLED SOFT DRINK INDUSTRY*

A non-profit association of manufacturers of bottled soft drinks, with members in every state. Its purposes: to promote better understanding of the industry and its products, and to improve production and distribution methods through education and research.



(For more information from advertisers, use the postcard on page 61)

Superior Design, Construction and PERFORMANCE

far greater strength and SAFETY!

AMERICAN Approved

PLAYGROUND AND SWIMMING POOL EQUIPMENT

The wise choice of experienced buyers for nearly half a century.

WRITE FOR LITERATURE

AMERICAN PLAYGROUND DEVICE CO.
ANDERSON, INDIANA, U.S.A.
WORLD'S LARGEST MANUFACTURERS OF FINE PARK, PICNIC, PLAYGROUND, SWIMMING POOL AND DRESSING ROOM EQUIPMENT


## News of Products . . .

(Concluded from page 58)

### ECONOMY FOLDING CHAIR

A new line of economy-priced, tubular steel folding chairs has been produced by the Krueger Metal Products Co., Green Bay, Wis. The Series 60 chairs are designed to provide quality portable seating at low cost for institutions with limited budgets. The 16 in. width permits more chairs per row, without sacrificing seating comfort. The chairs open and close noiselessly with a single sliding motion, and fold to single-frame thickness. Models are available with three kinds of seats: steel, upholstered, and Masonite recessed panel.

**(For Further Details Circle Index Code 0150)**

### CHAIR CLAMP

A new chair clamp reduces by 95 per cent the time needed to lock chair legs together to form continuous rows, according to the Hampden Specialty Products Corp., Easthampton, Mass. The reduction in "set up" time is achieved by eliminating the two-piece tubular clamp requiring a bolt and lock nut arrangement. The new one-piece wire clamp slips onto the back or front legs of two adjoining chairs. It automatically locks into position at the point where the crosser bracer bars join the legs of the chair.

**(For Further Details Circle Index Code 0151)**


*Important books for teachers*

**EDUCATION IN THE PERSPECTIVE OF HISTORY**

By EDWARD D. MYERS
Washington and Lee University

Complementary to *A Study of History* by ARNOLD TOYNBEE who provided the summary chapter for this unique history of the role education has played in all recorded civilizations. $6.00

**INTRODUCING CHILDREN TO THE WORLD**

**In Elementary and Junior High School**

By LEONARD S. KENWORTHY
Brooklyn College

"Dr. Kenworthy has pointed the way toward the education of elementary children to an awareness of their privileges and responsibilities in a world community." — *The Educational Forum.* $3.75

*At your bookstore or from*

HARPER & BROTHERS, N. Y. 16



PREMIER engraving company

Graphic Arts and Advertising Guild of Milwaukee

**EXCELLENT PHOTO ENGRAVERS!**

*We'll back that up with a closely-knit organization pledged to produce your work with an enthusiasm that meets your close schedules . . . and done with an expert touch that brings you the finest photo engraving. To augment this service and quality, we have installed new powderless etching equipment. This is in keeping with our policy to produce a superior product for our clients, with the most efficient methods.*

PREMIER ENGRAVING COMPANY PHOTO ENGRAVERS
818 west winnebago street · milwaukee 5, wisconsin
BRoadway 1-3337 | 3338 | 3339


### RENTAL PROGRAM

Under a new leasing plan, public or private schools in metropolitan centers in the northeastern states can now rent complete boiler plants without down payment or capital investment. The program offered through the **Anthracite Information Bureau,** New York 17, N. Y., requires nominal monthly rentals for three- to five-year contracts. After a year, the school may purchase title at a lower cost or continue to rent for as little as $20 a month.

**(For Further Details Circle Index Code 0152)**

### NEW FILMS

A new full-color sound movie on electric comfort heating for schools is available on loan from the Edwin L. Wiegand Co., Pittsburgh 8, Pa.

**(For Further Details Circle Index Code 0153)**

"Listen, Speak, Learn," an 11-minute 16mm. color film, describing the use of electronic language laboratories, is available from the Rheem Califone Corp., Hollywood, Calif. All scenes were filmed in actual high school language laboratories. Send for complete details.

**(For Further Details Circle Index Code 0154)**

### MANUFACTURER'S NEWS

The **Barber-Colman Co.,** Rockford, Ill., will build an addition to its present plant area to increase facilities by 17,000 sq. ft. The company makes automatic controls, air distribution products, overhead doors, and industrial products.

**The Universal Bleacher Co.,** Champaign, Ill., has obtained an option to acquire control of *E-Z-Fold, Inc.,* a basketball backstop manufacturer in Spearville, Kansas. E-Z-Fold will operate as a separate division of Universal Bleacher Co., with its own sales program.

**CORRESPONDING CODE INDEX NUMBERS TO BE ENCIRCLED CAN BE FOUND ON THE CARDS IN THE READER'S SERVICE SECTION**

# READER'S SERVICE SECTION

## INDEX TO SCHOOL EQUIPMENT

**The index and digest of advertisements below will help you obtain free information, catalogs, and product literature from the advertisements and companies listed in the new products section. Merely encircle the code number assigned to each firm in the request form below, clip the form and mail it to THE AMERICAN SCHOOL BOARD JOURNAL. Your request will receive prompt attention.**

| Code No. | | Page No. |
|---|---|---|
| 90 | **Acme Chemical Co.** ..... Maintenance materials | 50 |
| 91 | **American Bottlers of Carbonated Beverages** ..... National Association | 59 |
| 92 | **American Crayon Company**.... Prang water colors | 58 |
| 93 | **American Playground Device Co.** Playground and swimming pool equipment | 60 |
| 94 | **American Seating Company** ..... School seating | Ins. bet. 4 & 7 |
| 95 | **Dodge Div. Chrysler Motors**... School bus chassis | 51 |
| 96 | **Edwards & Co., Inc.**..... Language Laboratory | 11 |
| 97 | **Firestone Tire & Rubber Co.** ..... School bus tires | 4th cover |
| 98 | **Goodyear Tire & Rubber Co.**.... Xtra grip tires | 2 |
| 99 | **Harper & Brothers**..... Publishers | 60 |
| 910 | **Hillyard Chemical Company**.... Maintenance supplies | 57 |
| 911 | **Houze Glass Corp.**..... Heat and glare reducing window glass | 39 |
| 912 | **Hunt Pen Co., C. Howard**..... Pencil sharpeners | 44 |
| 913 | **International Business Machines Corp.** ..... Electric typewriters | 53 |
| 914 | **Keystone View Company** ..... Overhead projector | 44 |
| 915 | **Library Binding Institute**..... Free literature | 58 |
| 916 | **Magnetic Recording Industries** ..... Educational electronics | 3rd cover |
| 917 | **Maple Flooring Manufacturers Assn.** ..... Northern hard maple | 1 |
| 918 | **Medart Products, Inc., Fred.** ..... Telescopic gym seats | 2nd cover |
| 919 | **Minneapolis-Honeywell Regulator Co.** ..... Thermostatic control | 8 & 9 |
| 920 | **Mississippi Glass Company** ..... New look in school daylighting | Ins. bet. 46 & 49 |
| 921 | **Moore, Inc., P. O.** ..... Key control system | 46 |
| 922 | **New Hermes Engraving Machine Corp.** ..... Engravograph | 4 |
| 923 | **Owens Illinois: Kimble Glass Co. Sub.**..... Thinlite curtain wall | 14 |
| 924 | **Premier Engraving Company**.... Engravers | 60 |
| 925 | **Richards-Wilcox Mfg. Co.**..... Folding partitions | 7 |
| 926 | **Robbins Flooring Co.**..... Hardwood flooring | 42 |
| 927 | **Rockwell Mfg. Co. Drivetrainer Div.** ..... Driver training | 54 & 55 |

**USE THESE CARDS**

**These cards are provided for the convenience of THE AMERICAN SCHOOL BOARD JOURNAL readers in requesting information on products, services, booklets, and catalogs offered by the advertisers in this issue.**

**THE AMERICAN SCHOOL BOARD JOURNAL**
**400 North Broadway, Milwaukee 1, Wis.** — September, 1960

Please ask the manufacturers, whose code numbers I have encircled, to send me the information, catalogs, or product literature offered in this issue.

ADVERTISING INDEX

90 92 96 99 912 914 916 918 920 922 924 926 928 930 932 934
91 94 97 910 913 915 917 919 921 923 925 927 929 931 933 935
92 93 98 911

NEWS OF PRODUCTS FOR THE SCHOOLS

0137 0139 0141 0142 0143 0144 0145 0146 0147 0148 0149 0150 0151 0152 0153 0154
0138 0140

Also information on _____

Name _____

Title _____ School _____

City _____ Zone _____ State _____

HAVE YOU SIGNED YOUR NAME AND ADDRESS?

**THE AMERICAN SCHOOL BOARD JOURNAL**
**400 North Broadway, Milwaukee 1, Wis.** — September, 1960

Please ask the manufacturers, whose code numbers I have encircled, to send me the information, catalogs, or product literature offered in this issue.

ADVERTISING INDEX

90 92 96 99 912 914 916 918 920 922 924 926 928 930 932 934
91 94 97 910 913 915 917 919 921 923 925 927 929 931 933 935
92 93 98 911

NEWS OF PRODUCTS FOR THE SCHOOLS

0137 0139 0141 0142 0143 0144 0145 0146 0147 0148 0149 0150 0151 0152 0153 0154
0138 0140

Also information on _____

Name _____

Title _____ School _____

City _____ Zone _____ State _____

HAVE YOU SIGNED YOUR NAME AND ADDRESS?

## USE THESE CARDS

**The cards below are for your convenience in requesting product information, catalogs, and literature from advertisers and firms listed in this issue.**

BUSINESS REPLY MAIL

NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

Postage will be paid by:

AMERICAN SCHOOL BOARD JOURNAL

P.O. Box No. 2068

MILWAUKEE 1, WISCONSIN

FIRST CLASS
PERMIT NO. 1112
MILWAUKEE, WIS.

BUSINESS REPLY MAIL

NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

Postage will be paid by:

AMERICAN SCHOOL BOARD JOURNAL

P.O. Box No. 2068

MILWAUKEE 1, WISCONSIN

FIRST CLASS
PERMIT NO. 1112
MILWAUKEE, WIS.

## READER'S SERVICE SECTION

**(Continued)**


| Code No. | | Page No. |
|---|---|---|
| 928 | Royal Typewriter Company, Div. Royal McBee Corp. Electric typewriters | 43 |
| 929 | Safway Steel Products, Inc. Telescoping gym seats | 10 |
| 930 | Shwayder Brothers, Inc. Stacking chairs | 13 |
| 931 | Structural Slate Co. Natural slate | 45 |
| 932 | Taylor Company, Halsey W. Water coolers | 49 |
| 933 | United States Steel Corp. American Bridge Div. Steel stadiums, swimming pools, schools | 41 |
| 934 | Victor Animatograph Corp. Div. Kalart Co., Inc. Sound projector | 46 |
| 935 | Vogel-Peterson Co., Inc. Wardrobe systems | 56 |

### NEWS OF PRODUCTS FOR THE SCHOOLS

| Code No. | | Page No. |
|---|---|---|
| 0137 | Mosaic Tile Co. Ceramic tile panels | 52 |
| 0138 | American Desk Mfg. Co. 212 Series desk | 52 |
| 0139 | Hussey Mfg. Co. Gym seats | 52 |
| 0140 | Endur Products Co. Chalkboard | 52 |
| 0141 | Rheem Califone Corp. Portable language lab | 52 |
| 0142 | Educators Mfg. Co. Porta-Kitchen | 52 |
| 0143 | Switchcraft, Inc. Teaching machine | 56 |
| 0144 | Arlington Seating Co. Classroom furniture | 56 |
| 0145 | Edwards Co., Inc., Educational Equipment Div. Language laboratory | 56 |
| 0146 | Jayfro Athletic Supply Co. Basketball standard | 56 |
| 0147 | Rockwell Mfg. Co., Automatic Machine Div. Voting machine | 58 |
| 0148 | Bay West Paper Co. Towel dispenser | 58 |
| 0149 | Onox, Inc. Footsprayer | 58 |
| 0150 | Krueger Metal Products Co. Folding chair | 60 |
| 0151 | Hampden Specialty Products Corp. Chair clamp | 60 |
| 0152 | Anthracite Information Bureau. Boiler plant rental | 60 |
| 0153 | Edwin L. Wiegand Co. Film | 60 |
| 0154 | Rheem Califone Corp. Film | 60 |

# THIS NEW NAME

## Thompson Ramo Wooldridge Inc. EDUCATIONAL ELECTRONICS DIVISION

The benefits to schools and educators of this logical combination are clear. MRI and Dage are pioneers in creating effective teaching tools of utmost simplicity. Both go beyond technological leadership to supply teachers with valuable educational services, based on long experience with installations of every size, purpose and budget. This common pool of information assures you maximum assistance and results, from planning through installation and teaching.

**offers the valuable concepts and combined experience of MRI and DAGE in ELECTRONICS FOR EDUCATION**

**. . . serving your complete needs with QUALITY, EASY-TO-USE EQUIPMENT plus VITAL EDUCATIONAL SERVICES**

MAGNETIC RECORDING INDUSTRIES — MRI

DAGE TELEVISION DIVISION — DAGE

LANGUAGE LABORATORIES

**Magnetic Recording Industries The World's Most Complete Line**

Typical of MRI's comprehensive leadership are these new advances:

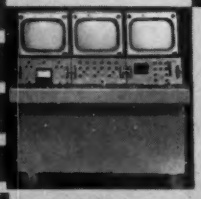
NEW TAPE MAGAZINE. No threading. No mixups. Another MRI development. The first entirely new tape-handling mechanism created exclusively for language teaching.

NEW MAGNETIC DISC. New fidelity. Simplest of all methods. Instant review. Indestructible, reusable over and over again. Ideal for testing . . . preferred by students & teachers alike.

NEW FOLD-A-BOOTH. Unified Laboratory-Classroom—another MRI first. Converts from one to the other in a single motion.

MRI Language Specialists available in your area for consultation. Over a decade of Language Laboratory experience.

EDUCATIONAL TELEVISION



SYSTEM ETS-1:

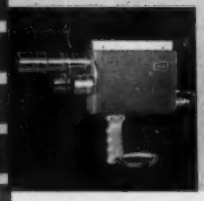
**Broadcast Quality TV for the classroom. Compact, flexible, easy to operate and maintain.**

MODULAR — Economically custom engineered to your exact initial needs; inexpensive additional units to meet your growth.

MOBILE—complete console goes through 30" doorways, simplifies handling for remotes.

VERSATILE—picks up live action, slides, motion picture projection images.

SIMPLE OPERATION—easily mastered by inexperienced operators.



**TRANSISTORIZED CAMERA MODEL #334**

World's only fully transistorized self-contained broadcast television camera.

Write or phone today for complete information about MRI Language Laboratory and Dage Educational Television Equipment and other educational services.

EDUCATIONAL ELECTRONICS DIVISION

**Thompson Ramo Wooldridge Inc.** TRW

126 FIFTH AVENUE, NEW YORK 11 • ALgonquin 5-7250

divisions and subsidiaries serving the educational field:
Magnetic Recording Industries Dage Television
Bell Sound Bel-Canto Intellectronics

A series of helpful manuals and other materials, derived from applications and national seminars, is available. Language laboratory and educational television topics include: "Human Factors," "Planning," "Programming Guide," "Television in Teaching," and many more. Write for complete listing.

MAGNETIC RECORDING INDUSTRIES — MRI

DAGE TELEVISION DIVISION — DAGE

*(For more information from advertisers, use the postcard on page 61)*

# ROUTE-PROVED EXTRA MILEAGE FOR EACH DOLLAR

TRANSPORT* ALL TRACTION* *FIRESTONE T.M.

## FIRESTONE FEATURES CUT SCHOOL BUS EXPENSES THREE WAYS!

First, Firestone school bus tires are available in all types to meet every need and every school budget. Second, Firestones give maximum original mileage with exclusive Firestone Rubber-X, the longest-wearing rubber ever used in Firestone tires. And third, Firestones resist impact damage with Firestone Safety-Fortified cord. This means extra low cost retread mileage. For economical improved road use, get Firestone Transport tires. For more traction in any weather on all types of roads, buy the Firestone All Traction tire. Ask about them at your Firestone Dealer or Store today and always specify Firestones on new buses. You'll get more miles and extra money-saving retreads.

**Firestone**

***BETTER RUBBER FROM START TO FINISH***

Copyright 1960, The Firestone Tire & Rubber Company

*(For more information from advertisers, use the postcard on page 61)*